Power for the People

Report and recommendations for the
Minister of Energy, Government of Alberta

SEPTEMBER 2012

Power for the People

Retail Market Review Committee

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The Retail Market Review Committee greatly appreciates the time and effort of the people who put together written submissions, made the time to give presentations to the committee and responded to requests for follow-up information.

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Executive Summary

Alberta restructured its electricity industry in 1996 with the implementation of the Electric Utilities Act. *Electricity generation was deregulated*[1] *to introduce competition and encourage innovation that could provide Albertans with a reliable, economical supply of power. Retail competition was established in 2001.*

Opening the retail electricity market to competition marked the start of a new era and paved the way for energy efficiency, conservation, innovation and choice—all the benefits that unrestrained competitive markets are proven to deliver. For the first time, Alberta consumers had the power to choose not just who they would buy their power from, but under what terms. They were free to shop for power product offerings, and to select benefits and features that met their personal needs. If they wanted prices that stayed stable from month to month, they could sign on for fixed-price contracts. If they liked their energy green, they could buy from a retailer whose supply was generated by wind or other renewable power sources. If they wanted extra services with their electricity—perhaps an energy efficiency audit for their home or the convenience of direct withdrawal payment—they could choose a retailer who offered those options. If they preferred a no-frills package that gave them the lowest possible price, they could choose a retailer to deliver that.

One in three Albertans now buy power from a retail electricity provider they've selected themselves. By default, Albertans who have not chosen a retailer buy power directly from their electricity distribution company (or this company's designated agent) at a default rate.

The current default—called the Regulated Rate Option, or RRO—changes monthly in response to changing prices in the forward market for electricity. The rate design strikes a balance between two sometimes conflicting objectives: consumers' desire for price stability and low prices. It uses one-month-forward hedges that expose consumers to the ups and downs of the real-time electricity market while still providing (in normal circumstances) reasonable prices that are not locked in for extensive periods.

In the winter of 2011-2012, a combination of severe weather conditions and conditions in the market system exposed Albertans to higher than normal price spikes. High prices are always a concern, especially for seniors and other Albertans with few resources and fixed incomes.

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[1] The transmission and distribution components of the electricity system are natural monopolies and remain regulated.

The Government of Alberta took steps to address these concerns.

On February 23, 2012, Premier Alison Redford announced a four-point plan to address the volatility and costs associated with electricity. The plan called for an independent review of the default rate option in order to reduce electricity volatility and costs for consumers. The Retail Market Review Committee was established as a result.

As part of the independent and transparent process, the committee established a website (www.rmrc.ca) to gather and share publicly the significant volume of information, comment and opinion about the retail electricity market the committee reviewed.

The committee's task was to analyze the default rate and determine if it was still needed, and if so, how it should be designed and delivered, and what its purpose should be. The committee examined a number of issues related to retail market competition and the electricity market as a whole. They explored the question "Is the retail market competitive?" and concluded that indeed it was. They also addressed issues that affect electricity consumers, looking at measures to ensure reliable electricity service, provide choices, ensure access and protect vulnerable Albertans. The committee was also tasked to consider the all-in or non-energy costs, considering how charges are determined. The committee also took into consideration the current freeze on ancillary costs included on Albertans' power bills. They concluded that freeze should be lifted as soon as possible. The committee's analyses and recommendations on these issues—and on the issue of the default rate—are detailed in Chapters 6 through 9 of this report. The committee's recommendations reflect its best effort to address two high-level principles and concerns—seeing that consumers benefit from retail competition and moving Alberta forward to a more innovative, efficient and dynamic retail market.

The Retail Market Review Committee took an analytical and consultative approach to its assignment. In the course of their investigations, committee members considered every side of every issue, and weighed opinions for and against. They reviewed literature about deregulated electricity markets in North America and around the world. They met with and gathered information from the expert agencies that form the backbone of Alberta's electricity industry. They also consulted with and questioned internationally recognized electricity experts. Over a period of several weeks, they heard presentations and reviewed submissions from stakeholders representing all aspects of the province's electricity marketplace—electricity generators, transmission and distribution system owners, retail electricity providers, cities and municipalities, small and large electricity-related businesses, and rural and urban consumer associations. They also surveyed Alberta consumers to get a sense of their ideas, opinions and concerns about electricity.

What to do with the default rate was one of the key questions underlying the Retail Market Review Committee's assignment.

The committee's review of this question is timely. The regulation that governs the current default rate is due to expire in 2014, and the province's electricity market is at a crossroads. As stakeholders noted during the course of the review, what happens in the retail market affects the success and stability of the wholesale market, and vice versa. The fate of the default rate—whether it continues indefinitely, or is reconfigured, or removed—will determine the future of Alberta's retail electricity market.

The committee came to the conclusion that the presence of the current default rate is a significant impediment to the development of a competitive retail market. Its recommendation is that phasing out the current default rate and replacing it with a new default rate, the "provider of last resort" (POLR) service is in the best interest of Albertans. The purpose of POLR service is to ensure the continuity of electricity service and protect consumers when unexpected or unavoidable things happen in the competitive marketplace. It ensures that consumers continue to receive electricity should they find themselves without a retail electricity provider.

The committee offers a number of recommendations that will improve the competitiveness of Alberta's electricity market whether or not the current default rate is transitioned. These recommendations address barriers to entry for new retailers, including onerous security requirements, unequal access to marketing channels and non-standardized business practices; barriers to market growth and development, including issues causes by the lack of business process standardization; and barriers to consumer switching, including lack of information, concerns about contracts and co-branding confusion.

The committee also offers recommendations for providing consumers with more and better electricity choices, providing information and resources, championing consumer interests in the marketplace and ensuring cost protection and adequate electricity services for vulnerable Albertans.

In all its recommendations, the committee embraces the view that a fully competitive retail electricity market is the best path forward. The innovation and choices that competition brings will ensure "power for the people" in the decades to come.

About This Report

Structure, Content and Purpose

This report was prepared at the direction of the Minister of Energy, and its content responds to the terms of reference outlined in the Ministerial Order that established the Retail Market Review Committee. Given these circumstances, the report will be of primary interest to the legislators and policy-makers who are responsible for the governance of Alberta's electricity industry. The report will also be of interest to industry stakeholders who play a role in the electricity marketplace. At the same time—since electricity is an industry that touches every citizen's life—the report will be of interest to Albertans.

Ministerial Order 32/2012 is included in Appendix 1 of this report.

Alberta's electricity industry is complex and multi-faceted, and this complexity is reflected in the content of this report. While much of the content is technical and industry specific, the Retail Market Review Committee has made every effort to make the complex accessible and understandable for citizens who do not make their livelihood in the electricity industry, yet have an interest in understanding how the system works. The report includes background information on the entire electricity system, as well as a glossary and appendices that outline the history of the industry and explain the way things work.

The report includes a number of chapters:

- Chapter 1 ("The Context") sets the stage with a discussion about the value and importance of choice in the electricity marketplace. It provides an overview of electricity restructuring in Alberta, and background facts about how the industry works.
- Chapter 2 ("The Retail Market Review") outlines the review process, the scope and mandate of the Retail Market Review Committee, and the purpose of the committee's assignment. It introduces key issues with regard to Alberta's default rate for electricity—issues which are at the heart of the committee's deliberations and recommendations.
- Chapter 3 ("The Retail Market") provides an overview of Alberta's retail electricity market.
- Chapter 4 ("Electricity Rates and Prices ") explains electricity bills, rates and prices. It includes an analysis of electricity price variability.
- Chapter 5 ("What We Heard from Consumers") present the results of the Retail Market Review Committee's consultations with consumers.
- Chapters 6 ("Is the Retail Market Competitive?") and 7 ("What Do Consumers Need? Choices, Resources and Consumer Protection") present the committee's views of the current state of affairs, including analyses of the issues, barriers, opportunities and challenges that face Alberta's retail electricity market. Chapter 6 addresses a fundamental question: Is the retail market competitive? Chapter 7 explores what consumers need in terms of choices, resources and protection.
- Chapter 8 ("Recommendations for General Market Improvements and for Supporting Consumers") wraps up the committee's recommendations for general improvements to the retail electricity market, including improvements that will increase competition and measures that will protect Albertans and give them the tools they need to make informed choices about their electricity. Implementing these suggested measures and improvements will help to build a competitive retail electricity industry— regardless of what path the Alberta government decides to follow on the default rate.
- Chapter 9 ("Analysis and Recommendations regarding the Default Rate " sets out the committee's analyses and recommendations regarding the question of what should be done with the current default rate. This was the question at the heart of the committee's consultations and deliberations. Alberta's industry electricity is at a crossroads, and the path Alberta chooses with regard to the default rate will determine the nature and structure of the industry over the next decade.

The body of the report concludes with a bibliography and glossary. The report appendices include:

- details about the review process, including the Ministerial Order that guided the review
- a timeline outlining the development of Alberta's electricity industry
- an overview of the industry
- programs and resources for electricity consumers
- results from survey
- what we heard from stakeholders
- a proposed timeline for implementing changes to the industry

Supplementary Materials

Supplementary materials, including documents and presentations submitted to the Retail Market Review Committee, are available at www.rmrc.ca. The website includes the material used for the committee's telephone survey and online questionnaire and the full reports with the results. Archived recordings of the committee's consultations with industry experts and stakeholders are also available.

Citations

Unless otherwise noted, all legislation cited in this report refer to the *Electric Utilities Act*.

Terms and Definitions: A Brief Guide

For a complete list of terms, please see the glossary.

Measuring Electricity

Electricity is measured in units of power called watts. The watt—which takes its name from steam engine inventor James Watt—is a very small unit of power. Nearly 750 watts equal one horsepower.

- One kilowatt (kW) is 1,000 watts.
- One megawatt (MW) is 1,000,000 watts.
- One gigawatt (GW) is 1,000,000,000 watts.

Kilowatt hours (kWh) and megawatt hours (MWh) measure how much electricity is created or consumed in one hour. For example, if 10 lamps with 100-watt light bulbs are lit for one hour, they will use one kilowatt hour of electricity by the end of that hour:

10 lamps x 100 watts = 1000 watts

1000 watts x 1 hour = 1 kilowatt hour

If one lamp with a 60-watt light bulb is left on for three hours, it will use 180 watt hours of electricity, or 0.18 kilowatt hours

Amount of power consumed (in kilowatts) x duration (in hours) = kilowatt hours

Here's a sampling of what a person could do with one kilowatt hour of electricity (AESO n.d.):

- brew 90 cups of coffee
- iron 11 shirts
- bake a cake
- surf the web for five hours
- blow-dry hair for three friends

Electricity Lingo

In Alberta, people who buy less than 250,000 kilowatt hours of electricity per year are called "eligible customers" (because they are eligible for the default rate) or "retail customers" or simply "customers." They are also called "consumers."

Companies that sell electricity to consumers are called "retailers," "marketers" (in legislation), "service providers" or "retail electricity providers."

Companies that sell electricity to consumers who have not signed retail service agreements are called "default rate providers" or "regulated rate (option) providers" ("RRO providers," for short). In Alberta, legislation requires distribution system owners to provide eligible customers in their service territories with a default rate for electricity. Currently, the default rate for small consumers is called the Regulated Rate Option, or RRO.

Distribution system owners may designate other companies to serve as RRO providers. For example, the distribution wires in southern Alberta are owned by FortisAlberta. FortisAlberta provides the RRO to customers in its service area through a contract with Epcor. Epcor serves as FortisAlberta's RRO provider.

CHANGING NAMES FOR CHANGING TIMES

When the Retail Market Review Committee began its work, it made the assumption that participants in the electricity industry shared a common understanding of terms such as regulated rate, default rate and default supply. As the consultation process progressed, this assumption proved to be wrong. The electricity industry is changing, as is the terminology used to describe it.

Ministerial Order 32/2012 uses the term "default rate" to mean the various incarnations of a government-mandated rate for small customers. This report follows that usage. The current "Regulated Rate Option" (RRO) is simply the latest manifestation of the default rate. In the future, the default rate may take on another name and another form.

Table 1 compares old and emerging electricity terms. Except where noted, the latter terms are used in this report.

Table 1. Electricity terms and definitions

The Old	The New	The Future
Competitive retailer Competitive electricity retailer Competitive provider Competitive electricity provider Unregulated retailer Unregulated provider	Retail Electricity Provider (REP)	
Affiliated retailer	Affiliated Retail Electricity Provider (AREP)	
Default service		Provider of last resort (POLR) service: A last-resort electricity service available to consumers who have lost electrical service by accident and through no fault of their own.
Default rate	As used in this report, the government-mandated rate for small customers. In the future, the default rate that is determined by the policy in force; the rate paid by a customer who does not have a retail electricity provider.	
RRO Regulated rate	The current default rate for small customers.	Provider Of Last Resort (POLR) rate: A future default rate for customers who do not have a retail electricity provider.
Contract Retail contract Unregulated rate	Retail service agreement	

Chapter

1

The Context

Electricity Choices for Albertans The retail market demystified and defined

> **"On any given day the benefits of electric power have an influence on our lives. From the tools we use at work to the lights that illuminate our homes, practically everything we do and use today relies on electricity. It powers our lives.**
>
> **Our alarm clocks allow us to get up on time. Our stoves make it quick and easy to cook meals. DVD players set the stage for family movie nights. And modern medical equipment makes assessing and treating patients far more effective. Our society has few activities that don't require electricity."**
>
> —Alberta Electric System Operator,
> *Powering Alberta* (2007), p. 4

Electricity is a wondrous thing. While not a natural resource, it is a force of nature with tremendous power—the power to light up our lives, power up our gadgets and shape how we live in the modern world. In a resource-based, industrial economy like Alberta's, electricity drives the machinery of industry and prosperity.

Electricity is an elusive force. Electric energy generated by wind, water, coal or natural gas flows down high-voltage transmission lines to transformer stations across the province. Here, the power is "stepped down" to a low-voltage, usable form that local distribution wires carry to homes and businesses, schools, hospitals, concert halls, neighbourhood street lights and anywhere else people need it.

In the world of electricity, the **retail market** is where most Albertans buy the electricity that powers their lives. Why is it "retail"? Because it has to do with buying—consumers making choices with respect to the purchase of electricity and energy services.

In the past, Albertans bought power from their local utility companies—companies that generated, transported and distributed electricity to sites where it was needed. Since market restructuring in 1995, the components of electricity (generation, transmission, distribution and retail sales) are no longer a package deal. Different parts of the system are now owned and operated by separate players—some of whom are the same old players as in the days before restructuring, but many of whom are new. The transmission and distribution components of the system remain regulated, while power generation and retail sales have been opened to competition.

Since 2001, Albertans have had the power to choose the company they'll buy their power from. The place they buy it—whether they are aware—is the retail market. It's not a market with stalls and stores and products that people can smell and touch. It's more like the cellphone market, where consumers need to check out their options, do their research and sign up. When Albertans choose an electricity retailer, power still comes to them in the same way. It's still as safe and reliable as before. (Restructuring doesn't mean that consumer protection and safety regulations have been neglected.) And if they don't like the choice they've made, they can change companies and find themselves a better deal.

Who buys electricity in the retail market? Most Albertans do, with the exception of large industrial and commercial customers who buy their power directly from the generating source or from the wholesale market.

In 2001, opening the retail electricity market to competition marked the start of a new era and paved the way for energy efficiency, conservation, innovation and choice. Those are all the benefits that unrestrained competitive markets are proven to deliver. For the first time, Alberta consumers had the power to choose not just who they would buy their power from, but under what terms. They were free to shop for power product offerings, and to select benefits and features that met their personal needs. If they wanted prices that stayed stable from month-to-month, they could sign on for fixed

SHOPPING FOR ELECTRICITY IS A BIT LIKE SHOPPING FOR POTATOES.

Farmers produce the product: they grow potatoes.

Power generators produce electricity.

Grocery chains buy potatoes from farmers: this is the wholesale market.

Retail electricity providers buy the electricity their customers need through a wholesale market called the power pool.

People buy potatoes from the grocery store: this is the retail market. The consumer can choose the price they'll pay for potatoes, the store they'll shop at and the amount they'll buy. The potatoes still get to their store of choice, and they don't need to worry how — that's the retailer's concern. The customer doesn't need to worry that one stores potatoes might be less safe to eat: industry-wide regulations and guidelines make sure that health and safety standards are enforced.

People buy electricity from the retailer of their choice — this is the retail market. They can choose which retailer they'll buy from and the price they'll pay for electricity.

price contracts. If they liked their energy green, they could buy from a retailer whose supply was generated by wind or other renewable power sources. If they wanted extra services with their electricity—perhaps an energy efficiency audit for their home or the convenience of direct withdrawal payment—they could choose a retailer who offered those options. If they preferred a no-frills package that gave them the lowest possible price, they could choose a retailer to deliver that.

One in three Albertans now buy power from a retail electricity provider they've selected themselves. By default, Albertans who have not chosen a retailer buy power directly from their electricity distribution company (or this company's designated agent) at a default rate that goes up and down as wholesale prices fluctuate. Not everyone is comfortable with price fluctuations (volatility), but the nature of the commodity makes volatility a characteristic of all electricity markets. The default rate does not offer the most stable or the lowest prices that might be possible, and it is not designed to meet a diversity of consumer expectations and needs. Consumers who prefer a different balance have the option of buying their power from competitive retailers who offer a broad selection of service agreements, including contracts that guarantee stable prices at rates that can be lower than the default rate.

The current default rate is called the Regulated Rate Option, or RRO.

Today, most Albertans buy electricity at the default rate.

Market research commissioned by the Retail Market Review Committee shows that even now, more than a decade after electricity consumers have had the power of choice, many people still don't really understand how the electricity system works and the options available to them. Thinking about electricity as something people shop for, like shopping for the best mortgage rate for their homes or the best cellphone plan for their families, is a still an alien concept.

Most Albertans would never dream of having a third party tell them what they should pay for their cellphone plan, but when it comes to electricity, many are content to have this decision made for them and to stay on the default rate. This rate may indeed be the best option for some people, but it doesn't provide the price or price stability or range of services some people would prefer.

The fact is that electricity is not something most Albertans spend much time thinking about—perhaps because power bills constitute less than 2% of an average family's household expenses (UCA 2012e). Most Albertans take it for granted that the power they need will always be there at the flick of a switch. Power prices may spike from month-to-month, but that's a natural thing in the world of electricity, where the effects of weather and facility outages and market pressures make a difference. For the most part, consumers don't notice the valleys, and unless price peaks spike much more dramatically than usual, they pay little attention to their monthly rates.

At a Crossroads

More than a decade after restructuring, the retail market is at crossroads. The retail market has matured. Consumers have choices. Competition is beginning to blossom, and standard industry indexes rate Alberta's competitive market as a relative success compared to others in North America. The most significant factor for the continued development of the competitive market is the existence of the default rate. Many Albertans still pay the default rate, even though there are other retail options that might better suit their needs.

In the 2011 ABACCUS assessment of restructured electricity markets, Alberta ranks fourth for choices available to residential consumers (Distributed Energy Financial Group, 2011). ABACCUS is the Annual Baseline Assessment of Choice in Canada and the United States.

The Regulated Rate Option Regulation, which governs the current default rate, expires in 2014. While the underlying policy will not change, the key question for government decision-makers is this: what should be done with the current default rate? Of course, if the regulation expires as scheduled, there will need to be provisions to take care of people who, for any number of reasons, don't have or don't qualify for a retail service agreement. But that is a different issue that is best dealt with in other ways than the continuation of a default rate that competes with and hampers retail market offerings.

What to do with the default rate is one of the key questions underlying the Retail Market Review Committee's assignment. The committee's recommendation is that retiring the default rate and replacing it with "provider of last resort" service is in the best interest of Albertans. This report outlines the committee's journey toward this conclusion and explains the reasons for this and other committee recommendations for ensuring the continued success and development of Alberta's electricity industry and its retail and wholesale electricity markets.

Through the course of its deliberations, the committee considered every side of the default rate issue, and weighed opinions for and against. The committee recognizes that its conclusions will not satisfy everyone, but it strongly believes that the recommendations put forward in this report are in the best interest of Albertans. Consumer groups who advocate for government protectionism and industry players who have a vested interest in protecting their share of the market may disagree.

Ultimately, the Alberta government must decide what will be done with the default rate. If the goal is to provide Albertans with benefits that can only come from a competitive market, government must take bold steps and stay the course. If it chooses not to do so, it must clearly signal its intentions and change direction. Decisive action is the only option.

Electricity Restructuring and Deregulation

A Brief History of Restructuring in Alberta

In Alberta as in other North American jurisdictions, the electricity industry evolved as a regulated monopoly dominated by large vertically integrated utilities (Michaels 2008; Alberta Energy 1996).

In a **vertically integrated system**, utility companies are responsible for the generation, transmission, distribution (local delivery) and retailing of electricity in defined service areas. When Alberta's communities were small and isolated, electricity system coordination was most easily accomplished through single companies that owned all the facilities. Vertical integration and close coordination of generation, transmission and distribution increased the safety and reliability of the system.

In a **regulated monopoly**, utility companies have the exclusive right and the obligation to serve specific areas.[1] A monopoly approach avoids the duplication of facilities. For example, it is not efficient to have two sets of electricity wires owned by two different companies when a single line minimizes both capital costs (Michaels 2008). A monopoly approach also facilitates economies of scale. In the past, generating units had to be large in order to achieve economies of scale, and they needed large, costly investments. Generators built plants subject to regulatory approval and a guaranteed return on investment provided by customers paying a regulated rate.

By the 1970s, regulators, consumers and utility companies in many parts of the world began reconsidering electricity markets and regulated, monopoly-based vertical integration (Michaels 2008). Transmission technologies now allowed the reliable flow of electricity over long distances. Control systems had evolved to allow the grid-wide coordination of generation with area-specific transmission and distribution systems (DOE 1996b). Small-scale generation technology had become more cost effective, so independent power producers could effectively compete with the capital-intensive, large-scale generation units that had been needed in the past. Industrial consumers were using new generation technology to install small, efficient natural gas-fired generation or cogeneration plants. These could be built and brought online more quickly than the massive coal-fired plants of previous eras, and with much less capital investment. And they could more easily be ramped up or ramped down in response to changing demand (AESO 2010d).

There was no longer a functional need to maintain the old vertically integrated systems, and many jurisdictions realized that continuing to regulate markets that could be competitive stifled innovation and created unnecessary regulatory costs (Michaels 2008). Industries such as airlines and telecommunications were restructuring, and many jurisdictions were beginning to restructure their electricity industries.

By the 1990s, the Alberta government and many stakeholders and consumers began to believe that "vertically integrated monopolies operating in service territory monopolies were not equipped to...keep pace with technological changes, address issues such as increasing globalization, and deliver more value to consumers" (AESO 2010d, p. 8).

In response to these and other concerns, including concerns that the existing Electric Energy Marketing Agency[2] structure hindered cost-effective service delivery (Alberta Advisory Council 2002, Appendix C, n.p.), the Minister of Energy directed the Department of Energy to work with stakeholders to develop a new structure for the province's electricity industry. A multi-stakeholder committee of utility companies, independent power producers, regulators and consumers examined the issues, and in 1994, recommended electricity restructuring based on the model of the bid—offer power pools in Australia and the United Kingdom (Alberta Advisory Council 2002, Appendix C).

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[1] Service areas for electricity distribution system owners are defined in Section 28 of Alberta's *Hydro and Electric Energy Act*.

[2] For details about EEMA, see the timeline in the report appendix.

The *Electric Utilities Act*, which came into effect on January 1, 1996, was the result of this work (DOE 1996).

The *Electric Utilities Act* restructured the electricity system[3]. It laid the foundation for a fully competitive electricity market and for "more streamlined regulation in parts of business where consumers are best protected by regulating costs" (DOE 1996b, p. 3).

The Act established a competitive market for electricity generation. The market structure accommodates all types of generation and provides investors with incentives to build and operate their generating plants efficiently (AUC 2011a).

Electricity generation is fully deregulated.

The *Electric Utilities Act* deregulated electricity generation and opened this segment of the electricity system to competitive, market-based system (DOE 1996a, 1996b).[4]

- The Act created open competition for generation and a "level playing field" where power producers compete on an equal basis to supply power and new generating capacity. When market forces signal the need to increase capacity,[5] private investors build generation facilities at their own cost and bear the associated risk. Although provincial regulators continue to approve new construction and ensure that safety standards are met, generation plant owners and investors decide when, where and what to build.

WHO PAYS?

In a regulated, vertically integrated system, consumers pay the cost of new facilities and bear the investment risk. In a competitive marketplace, facilities are built at no cost to consumers. Shareholders, not consumers, bear the investment risk, although consumers benefit from the technology and innovation that feature in a competitive marketplace and pay for the electricity at market determined rates.

- The Act created an open-access provincial power pool that is the market for all electricity bought and sold in Alberta. The power pool has been operated and maintained by the Alberta Electric System Operator since 2003.

ABOUT THE POOL

In the *Electric Utilities Act*, the "power pool" is both a physical and a financial market:

- It is the place where the physical transfer of electricity between buyers and sellers is controlled.
- It is the place where electricity is purchased, and where financial settlements between buyers and sellers are made.

Both market operations are managed by an independent system operator (ISO). The Alberta Electricity System Operator (AESO) has served this role since 2003.

With regard to the physical market, the AESO plans, maintains and operates the provincial transmission grid, controls the actual dispatch of power and ensures the reliable operation of the system.

With regard to the financial market, the AESO manages the bid-offer process, schedules the dispatch of electricity and manages the financial settlements between purchasers and suppliers.

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[3] The current *Electric Utilities Act* and its 20 supporting regulations are available from the Queen's Printer, www.qp.alberta.ca/.

[4] For a more detailed overview of the changes introduced in the *Electric Utilities Act*, see the Department of Energy web page called "Electric Utilities Act a Milestone for Alberta's Electric Industry," www.electricity-today.com/et/Apr96/pool.htm.

[5] The result of open competition and open power pool access is the pool price of electricity increases as the balance between demand and supply tightens. This provides a signal for the development of new generation (DOE 1996b).

Alberta's electricity transmission and distribution systems remain fully regulated.

Even in restructured electricity industries, transmission and distribution systems generally remain fully regulated because their "tremendous economies of scale" (Ronayne 2001, n.p.) make them natural monopolies: "it wouldn't make economic sense to have more than one set of wires and poles to deliver electricity to customers" (AUC 2008 [Info]). Because competition is generally not practical in the transmission and distribution segments of the electricity industry, rates for these services continue to be set through regulation.

In Alberta's restructured electricity system, the transmission system is centrally controlled and "operated as an integrated system to maintain reliability and cost efficiencies" (DOE 1996b, p. 10).

Retail sales of electricity are partly deregulated.

In 1998, amendments to the *Electric Utilities Act* addressed the implementation of customer choice by mandating retail competition for all consumers as of 2001 (Alberta Advisory Council 2002, Appendix C, n.p.). Retail competition meant that consumers could shop for electricity, choose a retail electricity provider, and select the price, terms and range of services that best met their needs.

The amendment defined transitional periods to give consumers time to familiarize themselves with the new competitive marketplace and opportunities to consider their options. During these transitional periods (three years for large consumers and five years for small), electricity distributors would provide their customers with a "regulated" default rate. (For details, see p. 43.) Once the transitional periods had ended (in 2003 and 2005), it was expected that a significant number of Albertans would be purchasing their power from a significant number of competitive retail electricity providers, and that a default rate would no longer be required.

In 2003, additional amendments to *Electric Utilities Act* and regulations determined that the default rate would not expire in 2003 and 2005, as previously specified, but would be replaced by the default rate that currently serves Alberta consumers who have not selected alternative retail service. The current rate, or "new" Regulated Rate Option, is discussed in detail later in this report. (See p. 71.)

WHAT'S IN A NAME?

The term "regulated" is often interpreted to mean "under government control."

In the case of the electricity default rate, "regulated" simply means that the rate is approved through the same cost-of-service approach that is traditionally used in utility rate-setting.

In a monopoly structure, cost-of-service regulation sets rates that allow utility companies to recover their expenses and earn a fair return on their capital (Michaels 2008).

"Regulators review all areas of a utility's expenditures and determine whether the costs have been prudently incurred and can be charged back to customers. As part of the exercise, the regulator determines a reasonable rate of return on investment...: this is what constitutes a utility's earnings" (DOE 1996b, p. 4).

In the case of Alberta's default rate, the Alberta Utilities Commission reviews the energy price setting plans of default rate providers to ensure that costs are being prudently incurred and to approve a fair return on investment.

Lessons from Other Retail Markets

"For the first time, customers who were not satisfied with what they got could go to another retailer. So for the first time in living memory, the incumbent utilities asked their customers what they wanted."

— Stephen Littlechild, PhD, on opening the U.K.'s residential market to retail competition. As cited in Littlechild, *Competition in Retail Electricity Supply* (Cambridge Working Papers in Economics, Faculty of Economics, University of Cambridge, 2002).

It is all too common for jurisdictions making policy changes to focus solely on their own issues and ignore or discount the experiences of others. This is understandable. "One size does not fit all" is a deregulation lesson learned across industries, and one that holds true for deregulation of the same industry across jurisdictions. Each jurisdiction has its own set of challenges and peculiarities that must be accounted for. However, other jurisdictions offer some general lessons for retail competition that Alberta should consider.

The Retail Market Review Committee consulted with four experts, three of whom gave who gave their insights on experiences in Norway, the U.K., and New Zealand, countries that have had retail competition in place for 20 years. The committee also drew on the experience of experts from Texas, including the experience of one of its own members who has been closely involved with creating retail competition there. Texas is generally acknowledged as having the most successful retail market in North America.

All these experts had remarkably similar stories to tell.

In their experience, the success of retail competition and its benefits to consumers hinged on three factors:

- eliminating regulatory uncertainty about government's role in the market, particularly in terms of the government setting price caps or mandating the provision of a rate that directly competes with what could be offered by retailers.
- overcoming customers' passive acceptance of (often uncompetitive) service from their incumbent utility.
- giving consumers access to trustworthy information and tools that allow them to easily compare different retail offers with confidence, and to switch from one provider to another, whenever they want, at minimal cost.

Government-Mandated Rates

Government-mandated rates like the RRO are, unavoidably, retail offers that directly compete with rates offered in the competitive market. Retail competition—as defined by the number of new entrants offering new products and by a reduction in rates—has been most successful in jurisdictions that have clearly avoided government mandated rates within the retail market.

Jurisdictions that have maintained government-mandated rates have generally fared less well. A recent study of retail electricity markets in Europe looked at the effect of maintaining a regulated price on the percentage of switching. Fourteen out of the 23 countries analyzed still had a government rate that was subject to regulatory approval (ECME 2010, p. 306). The study found that countries maintaining a regulated price tended to have little to no switching away from incumbents offering the regulated price.

Most jurisdictions that have opened their wholesale markets to competition have also introduced retail competition for larger industrial and commercial customers (Littlechild 2002). Retail for larger customers has worked well. In Alberta, for example, average industrial electricity rates in 2009 were almost 16% lower than the average across Canada (London Economics 2011).[6] This is in spite of the fact that provinces with large hydro resources have lower electricity rates naturally, and that some Canadian provinces subsidize all customers' electricity rates out of general tax revenues.

In Alberta and elsewhere, the debate has been whether retail competition can yield the same kinds of benefits for smaller customers. Many jurisdictions introduced competition in the residential retail market, but continued to require some form of government-mandated rate or price cap. Were these "rates to beat" or price caps beneficial? The general conclusion seems to be no. Government-mandated rates tended to stifle entry by new retailers, which left policy-makers in a bind. They were afraid to get rid of their regulated rates because competition had not developed, but often, it was the very existence of those rates that was keeping new retailers out of the market.

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[6] If Alberta is compared only with provinces without large hydro resources, industrial rates are 31% lower, on average. The 31% comparison excludes B.C., Manitoba and Quebec, all of which get 90% or more of their power from hydro, a significantly cheaper source of power than coal or natural gas plants. Personal communication, (RMRC conference call, May 17, 2012).

Dr. Stephen Littlechild, who was the Director General of Electricity Supply in the U.K. between 1989 and 1998, told the committee that the price caps originally imposed in the U.K. retail market were unnecessary, unhelpful and very difficult to get rid of once they were in place. Furthermore, once price caps have been instituted, the pressure on the regulator to lower rates to at or below cost is ongoing and strong, which is one of the main reasons that the existence of a government-mandated rate deters entry.

On the other hand, jurisdictions that removed price caps and provided a market-based default service have all seen increases in competition. An early study of the residential electricity market in Texas, conducted while the state's "price to beat" rate was in place, found that most customers had not benefited from retail competition. The same question was re-examined after Texas removed its "price to beat" cap in 2007. At that time, the evidence was that average residential prices had fallen.

Awareness of Choice

In most jurisdictions, there are still large numbers of residential customers who stay with their incumbent retailer even if it costs them money. This is true even in jurisdictions like Norway that have had retail choice for more than 20 years. Norway deregulated its retail market for all customers in 1990.

With a population of around 4.7 million, Norway's residential market is about 25% larger than Alberta's. Its retail electricity market is generally regarded as one of the most successful in the world. Unlike any other jurisdiction, Norway opened its market with no government-mandated rate for small customers. Customers who did not choose a retail provider were assigned by default to their incumbent utility, and incumbents were free to set rates as they saw fit.

A 2009 study of Norway's residential market concluded that customers could be divided into two distinct groups: those who actively seek information and have switched to new retail providers, and those who have passively stayed with their incumbent utility. The study found that customers who were willing to switch had a wide range of product offerings that were competitively priced. However, incumbents appeared to be taking advantage of the more passive customers. Those who stayed on default rates sometimes paid prices "well in excess of available offers" (Von Der Fehr and Hansen, 2009, p. 1).

It should be noted that all customers benefit even when only a minority of customers actively switch. For both retailers and incumbent utilities, the existence of customers who switch can exert significant pressure to lower prices and to offer terms and conditions that are better for all consumers.

For the segment of the population who resist retail competition in electricity as a matter of principle, the result may be ignorance of options that they might prefer. When presented with opportunities to save on electricity bills and asked how mucn they would need to save to be willing to switch, half of the customers in a cited survey said they would not consider switching unless the cost saved per kilowatt hour was greater than the actual price of electricity. Von Der Fehr and Hansen (2009) interpreted this as an alarming indication of the lack of awareness customers had about electricity.

Nonetheless, resistance to switching should not be an argument against encouraging retail competition. Customers who do not find it worthwhile to compare prices are generally well off and do not need to spend time finding lowest-cost options. But customers who are less well off would benefit from access to a variety of options—including payment options—that might better fit their needs. This group of customers would also benefit from targeted programs that informed them about those choices.

> "There is no government intervention that will do a better job at seeking lowest cost for consumers than the market."
>
> — Gary Holden,
> The Cash Store (former Chief Executive Officer
> Enmax Corporation), in discussions with the Retail
> Market Review Committee, May 4, 2012

Evidence from other jurisdictions about actual choices and the findings of the Retail Market Review Committee's consumer survey indicate that people have very different preferences about pricing options. Some want longer-term fixed prices and are willing to pay the premium that may be required to get a long-term fixed rate. Others do not want to pay a premium for a fixed price and are happy managing their own budgets to deal with a variable rate that is cheaper, on average, over a longer period of time.

In Norway, about 10% of customers are on a rate that simply reflects monthly wholesale prices, 65% of customers have other types of variable rates and 25% have longer-term fixed price agreements. In New Zealand, on the other hand, most agreements are for fixed terms of one to three years. The differences between these two countries highlights one of the benefits of an active retail market: retailers are pushed to provide a variety of offers that suit a variety of consumer preferences. Of course, consumers have to be aware of the choices available if they are to benefit from them.

Ease of Switching

All the experts who spoke with the Retail Market Review Committee considered it important to create standardized processes for customers to switch to a new retailer and for handling billing data. Effective processes benefit consumers by minimizing the cost to switch and reducing the likelihood of billing errors. Retailers' costs are also reduced if data from different distribution utilities can be obtained from a single standard interface.

Based on his experience in Alberta, Gary Holden (formerly the Chief Executive Officer of Enmax Corporation) indicated that reducing barriers to switching is the most important policy for governments to address: "No customer should be captured; only earned."

Norway and the U.K. both moved aggressively to reduce barriers to switching. Both countries placed notable focus on giving customers access to website tools and databases that allowed easy comparisons and switching. In Norway, all retailers are required to submit current information on prices and offers to a database maintained by the Norwegian competition authority. In the U.K., private, self-financed websites approved by the regulatory authority offer a variety of customizable comparison tools and "one-click" switching.

Olsen, Johnsen and Lewis (2006) compared the development of retail competition in four Nordic countries, and found that Finland and Denmark have been notably less successful than Norway and Sweden. They concluded that "...institutional barriers involving metering, limited unbundling of distribution and supply, and limited access to reliable information on contracts and prices" were significant factors limiting competition in Finland's and Denmark's residential markets.

The Value of Electricity and Electricity Choices

It's hard to imagine a world without electricity. But it wasn't so long ago that cold milk came from ice boxes and evening lighting from kerosene lamps. The invention of the light bulb brought electricity into people's homes and changed the world. Today, we have power at our fingertips at the instant we flick a switch, turn on a stove, plug in a guitar, or connect a heart monitor to a patient. Electricity is such an important part of modern life that we tend to think of it as a natural right. In fact, it is a commodity that we could live without (although we would not want to).

It's easy to take electricity for granted, and it's easy to forget that it's not free. Like most things we have to pay for, electricity is something we can shop for. Like most things we shop for, how and where and from whom we buy is up to us. And like most shopping, our decision not to shop is not without cost.

Consumers who choose not to shop for electricity pay a regulated default rate that is set through lengthy, complex, time-consuming and costly proceedings. Regulation has a cost, which is passed on to consumers.

In a competitive market—without the burden of regulation—competition sparks innovation and drives prices down. Consumers benefit from market competition coordinated by "the invisible hand," without government intervention. They get better prices and more choices.

Consider the world of telecommunications as an example. In the days of regulated, telecom monopolies, long distance was so expensive that calls were often made after 6 p.m., when the rates were lower. And all telephones were rotary dialed and black. It's a different world now. It's been changed by competition. There are new products, new services and new options. And consumers are better off for it.

The same goes for the world of electricity. Competition in the retail electricity market is good for consumers.

Economists define markets as the meeting ground for buyers and suppliers. Suppliers compete to attract buyers and earn a profit, and buyers (consumers) compete to obtain the goods and services they need from suppliers. "Everyone interacts voluntarily, motivated by self-interest" (Kasper 2008). In this context, prices are an important signal. Sellers cut prices in order to attract buyers. If they succeed, other sellers are motivated to enter the market and get a piece of the action. If they fail, their losses signal what part of their offering must be abandoned or modified. "Profit-loss signals...ensure that buyers get more of what they want and expend fewer resources on what they do not want" (Kasper 2008).

"Better services at lower prices" is the promise of vibrant competitive markets. Consumers realize other benefits too:

- **Freedom of choice.** Consumers can choose prices, products, and services that suit their personal preferences. Rather than having a regulator make decisions on their behalf, they can make their own choices and take responsibility for their own decisions.
- **Accurate price signals.** Competitive markets price goods more efficiently than regulators can, giving consumers the benefit of lower prices. Regulators try to set reasonable prices based on cost information provided by regulated companies. In a competitive market, price information is broader, more accurate and more timely, and companies must operate efficiently in order to lower their costs and earn a profit. In a regulated environment, companies earn the regulator-approved profit margin.
- **Innovation and customer service.** In a competitive environment, companies strive to improve their offerings in order to gain an edge over their rivals. To do this, they incur "the costs and risks of product innovation" (Kasper 2008)—a process that has inspired innumerable leaps of progress over the centuries. (Compare the "any colour you choose as long as it's black" days of Henry Ford's Model T with the "any colour of the rainbow" electric cars of our own times.) They also rely on process innovation, which lowers costs and allows them to undercut competitors on price. (Process innovation has made today's portable computers much smaller and cheaper than early prototypes.) And they compete by offering convenience, warranties, after-sales services and customer perks that attract buyers.

  Regulated industries have less incentive to innovate or react to consumer preferences for customized goods and services that reflect personal tastes or needs. Without competitive pressures, they are insulated from the consequences of poor quality and poor performance and cannot provide the synergies that happen when diverse services are creatively unbundled. Second, if they try to innovate and fail, the regulator may deem their investment imprudent and not allow them to recover their cost.
- **Environmental benefits.** Consumers reap the benefits of competitive markets when they engage with these markets as informed shoppers. Engagement requires relevant knowledge. Consumers need to know "what their requirements are, what products are available, what they can afford, and how various products compare, taking prices into account" (Kasper 2008). Consumers who understand the electricity market and electricity prices can make informed decisions about their energy consumption. Reducing consumption to avoid peak prices or selecting green products is good for the environment.

Competition forces markets to become more efficient, cost-effective and creative. "New businesses arise to compete with existing businesses," and companies strive to offer products and services that consumers really want—at the lowest possible price (Alberta Resource Development 2000, p. 2).

Over the long term, a competitive market is the best for consumers. It provides a greater diversity of products, and at the same time, ensures the lowest possible prices. A competitive market is also best for industry. Competitive electricity prices make it possible for Alberta businesses to compete in international markets and to maintain economic growth that creates jobs and prosperity for Albertans.

Facts about Electricity

> "At its point of use, electricity is one of the cleanest, most efficient forms of energy."
>
> — Government of Alberta, *Launching Alberta's Energy Future: Provincial Energy Strategy* (2008), p. 44

What it is and where it comes from

- Electricity is a secondary source of energy created from the conversion of primary sources such as coal, natural gas, nuclear power, wind, water, sunshine and biomass. (For details about the primary energy sources used to generate Alberta's electricity supply, see Figure 1 on p. 22 and for projected future supply see Figure 2 on p. 22)
- Most of Alberta's electricity is produced at large generating facilities located close to the natural resources that power them (AESO 2010e).

Much of Alberta's power comes from the Bow Valley river system and the Lake Wabamun area (west of Edmonton)—locations where the province's first power plants were established. Many of the province's early power lines were built to transmit electricity from these locations to where it was needed (AESO 2007).

- Generators use turbines—machines that convert the kinetic energy of moving liquids (like water) or gases (like steam) to electricity. The steam for steam-driven turbines is produced in large boilers where fossil fuels or other combustible materials are burned.[7] Combustion turbines generate electricity by the burning of a fuel (like natural gas). Turbines driven by rushing water generate hydro power. The propellers of wind turbines gather wind energy, which is converted to electricity.

The shaft of a spinning turbine is connected to an alternator, which produces current by spinning a coil of wire through a fixed magnetic field or by spinning a magnet through a fixed coil of wire. The rotation of the turbine induces current into the wire.

Biomass includes peat, wood waste, vegetation, garbage or agricultural waste (including food-processing and grain by products and manure) that is used as an energy source. Alberta generates the most electricity from biomass in Canada (Centre for Energy 2012a).

- Alberta has close to 14,000 megawatts of electricity generating capacity (AESO 2012a). As shown in Figure 1, 45% of this capacity comes from coal-fired generators, 40% from natural gas and about 9% from renewable energy sources, including wind and biomass.
- Nearly half of Alberta's current generating capacity was built after the 1996 restructuring of the province's electricity industry (AESO 2012a). This represents approximately $11.5 billion of private investment that was not borne by taxpayers. In Alberta's deregulated market, generation investors themselves bear the cost risks and the resulting profits and losses (AESO 2012k).
- The Alberta Electric System Operator forecasts that Alberta's generation capacity will grow to about 19,000 megawatts by 2020 (AESO 2012i). Most new investment is expected to be in natural gas fired generation.
- Because many plants will retire over the next 20 years, an additional 13,000 megawatts of new generation will need to be added to meet Albertans' electricity needs (AESO 2011d).

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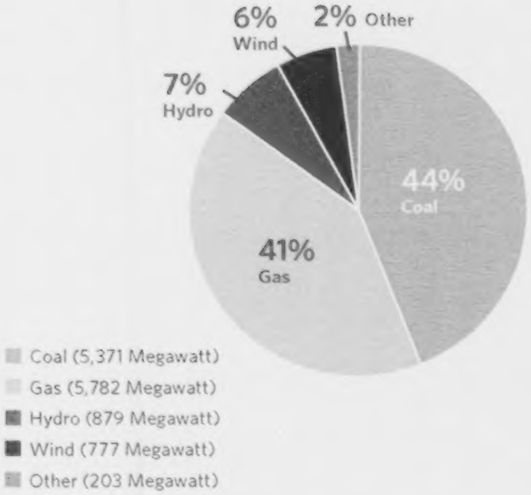
[7] Electricity can also be generated by nuclear reactors. The splitting of atoms creates heat that boils water in the reactor, creating steam that spins electricity-generating turbines. There are no nuclear-powered generators in Alberta.

Figure 1.

Sources of electricity, May 2012

Installed Capacity by Resource Type, 2012



Source: Alberta Electric System Operator, AESO Long-term Transmission Plan, June 2012

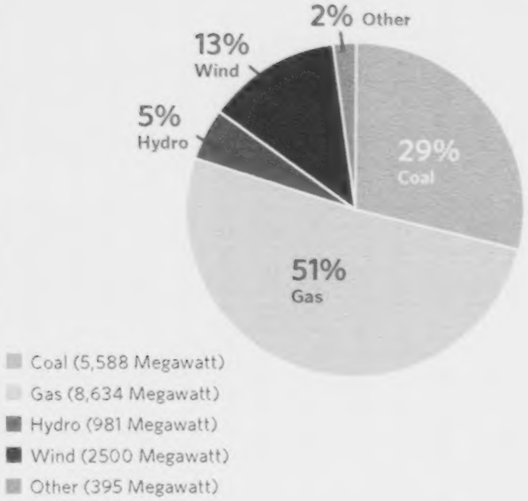
The changing world of electricity generation

- Traditional coal-fired power plants produce more carbon dioxide per unit of electricity generated than any other electricity source (Taft and Cooper 2000). The restructuring of Alberta's electricity system has made it possible for the province to meet more of its electricity needs through renewable energy sources such as wind and solar power.
- In 1994, 74% of Alberta's electricity (5,700 megawatts) was supplied by coal-fired plants (DOE 1996b). As of May 2012, coal-fired generation supplies only 45% (6,200 megawatts) of Alberta's energy capacity.
- In 1994, Canada's first commercial wind farm was completed near Pincher Creek, Alberta (Centre for Energy 2012c). As of May 2012, Alberta had 895 megawatts of installed wind generating capacity (DOE n.d.-b.).
- The Alberta Electric System Operator, which oversees the province's electricity transmission grid, anticipates that wind generation will meet 13% of Alberta's power needs by 2020 (see Figure 2). This represents the addition of 2,500 megawatts of wind power (AESO 2012i). Coal-fired electricity generation will drop to 29%. Reducing Alberta's reliance on coal-fired generation reduces carbon dioxide emissions, which act as a greenhouse gas in the atmosphere.

Figure 2.

Projected sources of electricity generation in Alberta, 2020

Installed Capacity by Resource Type, 2012



Source: Alberta Electric System Operator, *AESO Long-term Transmission Plan*, June 2012

WIND ENERGY: CHALLENGES AND OPPORTUNITIES

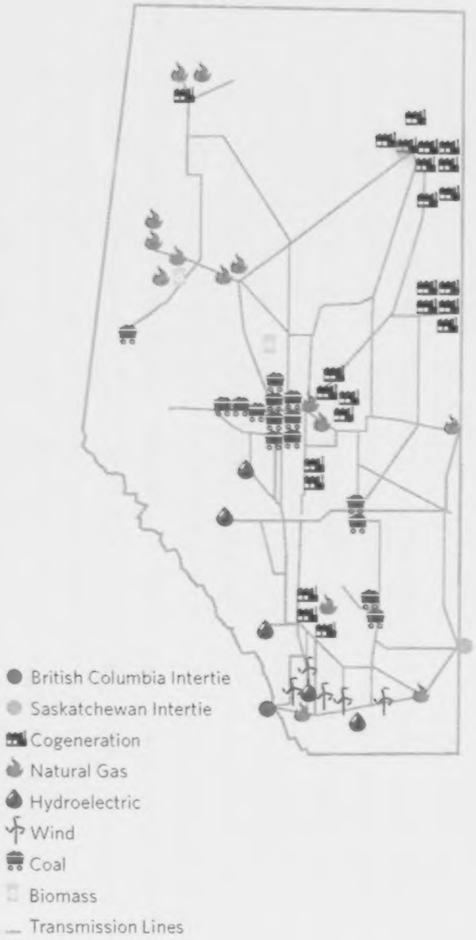
Alberta was the first North American jurisdiction to develop a technical standard for connecting wind power facilities to a transmission grid (see Alberta's Wind Capacity in Figure 3), and the first Canadian jurisdiction to launch a wind forecasting study (AESO 2010h).

Wind can stop, start or change intensity at any moment. The challenge is to accommodate this variability while maintaining the supply-demand stability of the grid. System stability is typically achieved by matching supply to demand in real time, "holding various generation assets at various stages of readiness to meet changes in load and remotely dispatching them as required" (Alberta Innovates Technology Futures 2011, p. 1). Other ways of maintaining the supply-demand balance include new technology that makes it possible to store wind power, interties that make it possible to balance the system through imports or exports, and new transmission lines to ensure that power produced by southern Alberta wind developers can be safely and reliably transferred to customers (AESO 2010h).

Alberta ranks third in Canada for the amount of installed wind power (AESO 2012i).

Figure 3.

Electricity generation sites in Alberta



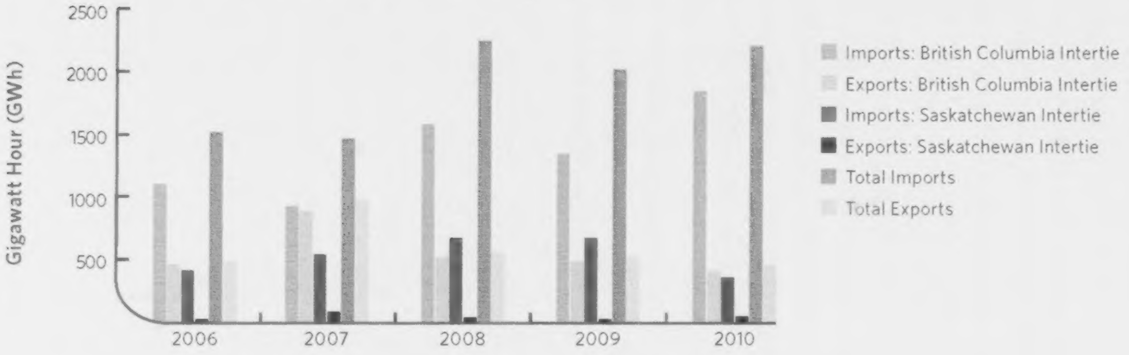
Source: Alberta Department of Energy, "Alberta's Energy Industry: An Overview," 2010

How it flows

- Electricity moves at the speed of light. If the moon were connected to a power source on the Earth, it would take 1.26 seconds for that power to reach the moon (AESO 2008).
- From the power generating stations where it is produced, electricity flows along high-voltage transmission lines to more than 500 transformer stations that "step down" the power to a low-voltage, usable form. Local distribution wires carry the stepped-down power to homes and businesses, schools, hospitals, concert halls and neighbourhood street lights—wherever Albertans need it. Power meters measure the amount of electricity that flows to the end point (home, farm or business) where it is used.
- About 26,000 kilometres of transmission lines span the province, covering an area of nearly 662,000 square kilometers (AESO 2012n).
- Alberta imports more electricity than it exports, and relies on interties with British Columbia and Saskatchewan to import power and enhance system reliability during times of tight supply (AESO 2012i). At other times, imports provide electricity at lower prices than Alberta-based generators are offering.
- In 2011, Alberta imported 3,591 gigawatt hours of electricity valued at $316 million and exported 119 gigawatt hours valued at more than $5 million (AESO 2011n; DOE n.d.-b). Alberta has been a net importer of electricity each year between 2002 and 2011 (AESO 2012i).
- Alberta's export of power has typically been about 1% of the power produced in Alberta. Imports have typically been about 2%.

Figure 4.

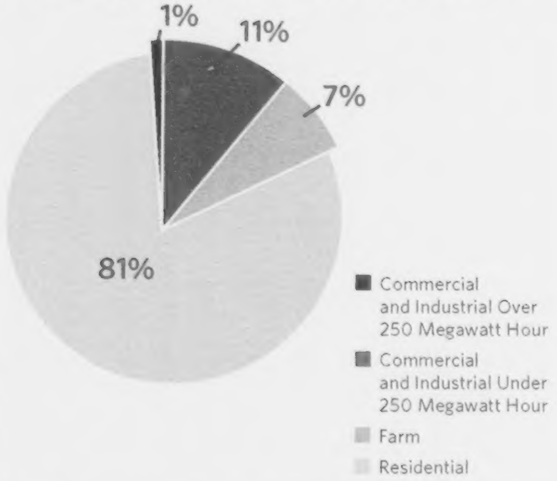
Alberta's electricity exports and imports, 2006-2010



Source: Alberta Electric System Operator, *AESO Long-term Transmission Plan*, June 2012

Figure 5.

Electricity consumers in Alberta, 2011



Source: Alberta Department of Energy, "Presentation to the Retail Market Review Committee" (Part 1), March 27, 2012.

How much we use

- The average home in Alberta uses about 600 kilowatt hours of electricity per month (DOE 2012e). The average Alberta farm uses 1,800 kilowatt hours (AESO 2007).
- Albertans used 73,600 gigawatt hours of electricity in 2011 (AESO 2012n). As of April 2012, the electricity used by Albertans powered more than 1.6 million sites, including 1.3 million households, 107,000 farms, 179,000 businesses and 17,000 large industrial sites (DOE 2012h, 2012i). (For more information see Figure 5.)
- Demand for electricity is higher in the winter than in the summer, higher on weekdays than on weekends, and higher during the day than at night (Alberta Innovates Technology Futures 2011). In Alberta, the highest hourly consumption of electricity usually occurs around dinner time in the dark, cold winter months (AESO 2009a).

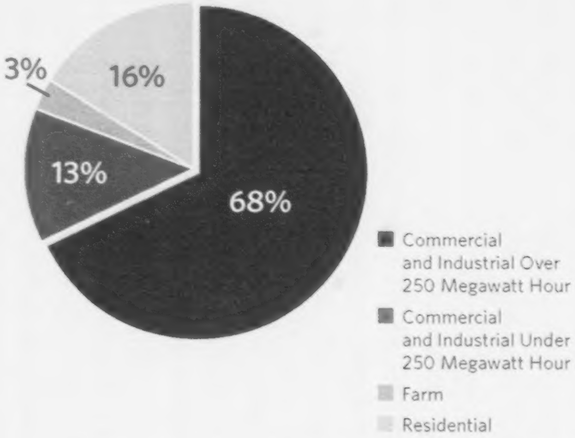
WHEN ALBERTANS USE THE MOST ELECTRICITY

The demand for electricity typically rises in the morning, as Albertans prepare to start their day. It declines slightly and stays steady throughout the day. Demand increases again when people come home from school or work and turn on lights and home appliances. It decreases again throughout the night.

- Peak demand is the highest hourly consumption of electricity during a year. It measures the amount of electricity needed to serve all Albertans during times when they use the most power (AESO 2010g). On January 16, 2012, frigid temperatures across the province led to record-high peak demand in Alberta—10,609 megawatts of electricity consumption (AESO 2012n).

Figure 6.

Electricity demand by end use, 2011



Source: Alberta Electric System Operator, "AESO Presentation to Retail Market Review Committee," April 30, 2012.

How much we need

- Over the past 20 years, Alberta's population grew by 43%, and the demand for power increased by 84% (AESO 2012k). Between 2006 and 2011, Alberta's population grew from 3.3 million to more than 3.6 million people, an increase of 11% (Statistics Canada 2012).
- In the 10-year period between 2001 and 2010, peak demand for electricity grew by 28.9%—an average of 2.9% per year. Total energy consumption grew by 32%. By 2029, peak demand is forecast to grow by an average of 3.3% per year, and consumption by an average of 3.2%. Growth in the oil sands is the primary driver of this growth (AESO 2012i).
- Each year between 2003 and 2007, Alberta's need for electricity grew at a rate equal to adding the power needs of two cities the size of Red Deer (AESO 2009a).
- The Alberta Electric System Operator predicts that peak demand will reach 15,600 megawatts by 2020 — 5,400 megawatts higher than the province's 2011 peak. This rate of growth is like adding the power needs of 3.5 cities the size of Calgary (AESO 2011d).
- Over the next 20 years, Alberta's demand for power is expected to double (AESO 2011d).

MODERN TECHNOLOGY MAKES HUGE DEMANDS ON THE POWER SYSTEM.

In Alberta, the average four-person household has 20 "instant on" electronics such as laptops, DVD players and cellphone chargers. In 2007, more than one quarter of Canadian households owned at least three TVs. And between 1990 and 2007, the amount of energy used to power home electronics more than doubled.

Each month, the average elementary school in Alberta uses 21,250 kilowatt hours of electricity to power computer labs, interactive whiteboards and other electronics. This is more than the energy used by 20 houses in a city block.

The average hospital uses 1,875,000 kilowatt hours of electricity each month—enough to power 3,000 typical homes. (AltaLink n.d.)

What it costs and what we pay for

- The price of electricity is determined by the forces of supply and demand. When demand drops (as it did during the recent recession), consumers benefit from lower prices. "An openly competitive wholesale market has helped keep the province's average electricity prices middle-of-the-pack compared to other provinces, despite massive growth and increased electricity demand in Alberta that has exceeded all other provinces" (AESO 2012k, p. 8).

- In 2011, a London Economics study commissioned by the Utilities Consumer Advocate, the Independent Power Producers Society of Alberta and the Industrial Power Consumers Association of Alberta concluded that, when compared fairly, Alberta's delivered price of electricity (including generation, transmission and distribution costs) was competitive with prices in other parts of Canada. The study found that Alberta's prices were competitive for both residential and industrial consumers. It also found that Alberta has maintained competitive prices in spite of having limited access to cheaper forms of generation such as the abundant hydro resources in Quebec, Manitoba and British Columbia (AESO 2012k).

Power costs in Alberta more closely approximate the full economic cost of providing electricity than do power costs in other provinces. Although delivered power prices in other provinces may appear lower, such prices mask implicit subsidies, reflect lower effective tax rates on utilities, and incorporate cross subsidies provided by export sales. By contrast, in Alberta, electricity price signals are less muted by government intervention and are highly responsive to supply-demand dynamics. Alberta was the only province to see power prices fall in response to the recent recession. Appropriate price signals lead to more efficient consumption and investment decisions, resulting in the lowest efficient sustainable prices in the long run (London Economics International 2011, p. 4).

- Rural Albertans who pay the default RRO rate for electricity pay 8.4 cents per kilowatt hour; Albertans who live in urban areas pay an average RRO rate of 8.1 cents per kilowatt hour (DOE 2012e).

System structures and governance

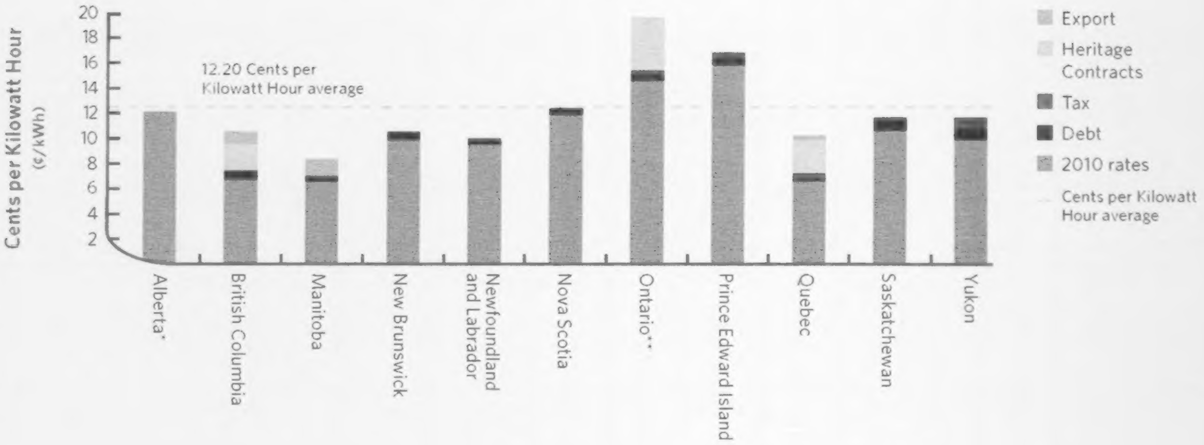
- Alberta's electricity system has always been a mixture of privately owned and municipally owned facilities. No part of the system has ever been owned by the Alberta government (DOE n.d.-a).
- The electricity system is complex and its components are highly interconnected. Events or changes that affect one part of the system often have significant impacts on other parts. For example, the capacity and stability of the transmission system affects investment in electricity generation. What happens in the wholesale market (where power producers and retailers buy and sell electricity) affects retail markets, and ultimately, the price of electricity that Albertans see on their monthly bills.
- Decisions related to electricity transmission cannot be made in isolation. They must be made from a system-wide perspective, as part of a comprehensive plan.

Some types of power plants can be built in 18 to 24 months. The planning and building of a transmission line can take five to eight years (AESO 2007).

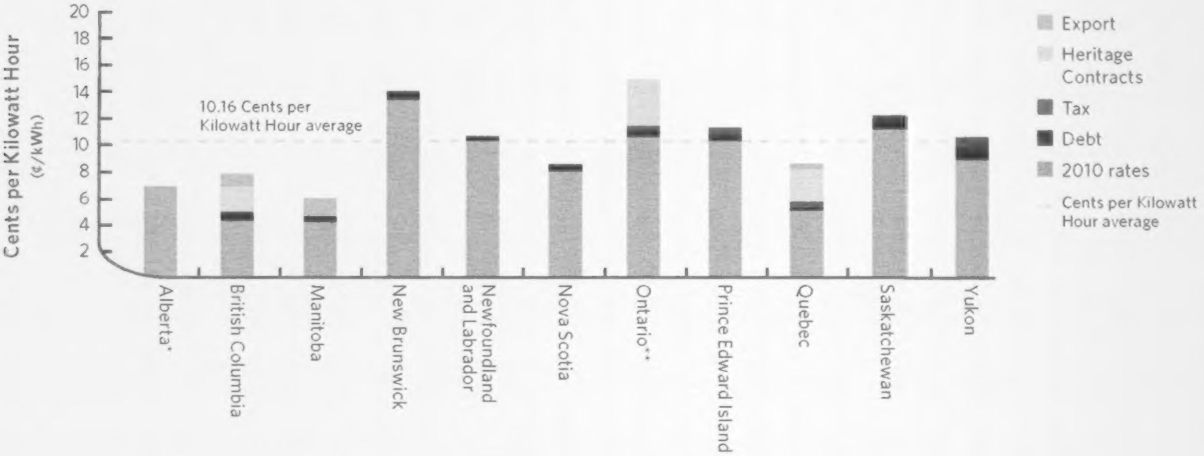
- Alberta's transmission system is largely owned by public, for-profit companies, but responsibility for planning and operating the system falls to the Alberta Electric System Operator, which is not-for-profit.

Figure 7.

A Comparison of Residential Customer's Delivery Costs Across Canada



A Comparison of Industrial Customer's Delivery Costs Across Canada



*Alberta's rate is the weighted average of Regulated Rate Options (RRO) for Enmax, Epcor, FortisAlberta, and Atco service territories plus transmission and distribution charges.

**Ontario's rate is for Hydro One.

Source: Independent Power Producers Society of Alberta, the Industrial Power Consumers Association of Alberta and the Utilities Consumer Advocate by London Economics International LLC, "Power prices in context: comparing Alberta delivered electricity prices to other Canadian provinces on a level playing field" (March 2, 2011).

THE AESO IS THE ISO.

Section 16 of the *Electric Utilities Act* assigns responsibilities for the "safe, reliable and economic operation" of Alberta's electricity transmission grid and for the "fair, efficient and openly competitive" operation of the province's electricity market to the Electric System Operator created under the act.

Since 2003, the role of Independent System Operator has been served by the Alberta Electric System Operator.

What makes electricity unique

- In systems such as Alberta's, where there is no infrastructure to support the economical storage of electricity, power must be consumed at virtually the same time it is produced. The system must maintain a perfect balance: if production either falls short of or exceeds demand for even a second, area-wide blackouts can occur (Michaels 2008). Reserve power plants and other ancillary services must be on hand and always operating so that failed generators or transmission lines can be quickly replaced. Both predictable and unforeseen changes in local or regional conditions can have an effect on electricity supply, and an immediate impact on electricity prices.
- Electricity prices are volatile by nature. They change constantly and rapidly—from hour to hour and minute to minute—in response to market forces and other factors. Electricity prices that are averaged over a longer term are more stable than hourly prices.
- The price of electricity depends on a number of factors. Many of these factors can change very quickly and cannot be controlled through human intervention. Factors that can affect the price of electricity in the short term include the following (UCA n.d-a; AESO 2011c; AESO 2012i):
  - outages at generation facilities and planned maintenance times (on average, generation plants are down for planned and unplanned maintenance 10-15% of the time. When plants are not operating and supply is restricted, power prices go up).
  - extreme weather (lightning strikes, ice storms and high winds can damage power lines, cause outages and limit access to supply, which increases the price of power).
  - water levels in dams (low water levels restrict the amount of power being generated. Less power supply means that prices go up).
  - the amount of wind on the transmission grid (in the wholesale market, wind power generators are price takers. Although they are paid the hourly pool price that is determined by supply and demand, the energy supply they offer for sale is priced at zero. As a result, the more wind energy that is dispatched on the grid, the lower the wholesale market price. In the short term, customers benefit from lower prices. In the long-term, however, low prices may be a disincentive to investors and much need new generation may not be built).
  - intertie usage (the amount of electricity Alberta imports through intertie connections with neighbouring provinces affects prices. Since imports—like wind energy—offer into the wholesale market at zero dollars per megawatt hour, high levels of imports can lower prices).
  - transmission constraints (when system congestion restricts generators' ability to get their power to the market, supply is restricted and prices go up).
  - the time of day and time of the year (the price of electricity is often higher in peak hours, when there is more demand for power).
- Factors that can affect the long-term price of electricity include: (AUC n.d-a)
  - provincial demand growth
  - the price of fuel (coal and natural gas) used to generate electricity
  - the addition of new generation facilities or supply

- Short-term events such as storms and facility outages can raise the wholesale price of electricity as high as $1,000 per megawatt hour for several hours. Surplus events such as wind energy generated on an unexpectedly windy day can lower the wholesale price to zero (AUC n.d.-a).
- The natural volatility of electricity prices means that consumers can see fluctuations on their monthly bills. Over the long term, when hourly wholesale prices are averaged over a period of months, price volatility is smoothed out over time. In the short term, however, hour-to-hour volatility is a fact of the market.

Alberta's unique electricity market

- Alberta and Ontario are the only two Canadian jurisdictions that have moved along a path toward a competitive retail electricity market (DOE 2010b).
- Alberta's electricity market is relatively small. In 2005, Alberta's peak demand of 9,000 megawatts was one-third the size of Ontario's and one-eighth the size of peak demand in Texas or the United Kingdom. Nonetheless, wholesale power was an $8-billion market in 2011 (AESO 2012n).

ALBERTA'S ENERGY STRATEGY

In 2008, Alberta adopted a provincial energy strategy based on the notion that creating wealth and safeguarding Alberta's social advantages and environment for future generations go hand in hand. The strategy establishes a vision of Alberta as a "global energy leader, recognized as a responsible world-class energy supplier, an energy technology champion, a sophisticated energy consumer, and a solid global environmental citizen" (Government of Alberta 2008, p. 20). It recognizes electricity as an agent of economic development and a tool for achieving the desired outcomes of clean energy production, wise energy use and sustained economic prosperity.

- As shown in Figure 6, Alberta has a unique mix of electricity consumers. In 2011, industrial customers (including oil sands companies) accounted for 68% of the electricity consumption in the province, while residential customers accounted for only 13% (AESO 2012a). In Ontario, by comparison, electricity demand is roughly one-third industrial, one-third residential and one-third commercial (Hydro One 2009).
- Compared to other jurisdictions, industrial consumption constitutes an unusually high proportion of electricity demand (AESO 2011b). The result is "changes in economic conditions are key drivers of energy usage and peak demand" (Alberta Innovates Technology Futures 2011, pp. 22-23).
- Alberta's large industrial load means demand for power is steadier than in other jurisdictions because industries run 24 hours a day, seven days a week. Alberta's 80% load factor is very high (the load factor is a ratio of average demand over time to peak demand for that time). The province's steady, predictable demand for electricity encourages investment in new generation (AESO 2010g; AESO 2012i).
- Electricity prices in Alberta are more closely tied to provincial GDP[8] and economic growth than the prices of other goods and services. Electricity drives economic growth, and the state of the industry reflects the state of the economy. When the economy expands and industry is booming, increased demand for electricity drives up prices.

"Changes in economic conditions are key drivers of energy usage and demand in Alberta" (Alberta Innovates Technology Futures 2011, p. 23). Alberta Electric System Operator forecasts suggest that the expected high growth in the oil and gas industry over the next five years will increase Alberta's peak demand for electricity by 4-5% per year through 2016, and 2-3% per year after that.

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[8] Gross domestic product (GDP) is the total value of all goods and services produced in a specified period, usually one year.

- The fact that Alberta has more coal-fired generation and less hydro power than other provinces affects electricity prices and volatility. Coal-fired generation takes half a day to ramp up, which means that—unlike hydro—it cannot be used to balance the volatility of wind energy, which can drop off suddenly and without warning (AESO 2010g).

70% of Canada's coal is in Alberta (Taft and Cooper 2000).

- Alberta's current electricity supply is generated from a greater diversity of sources (wind, hydro, biomass, natural gas, coal) than in is the case in other jurisdictions. Alberta's potential for generation also comes from diverse sources (AESO 2012i).
- Alberta has a healthy "behind-the-fence" electricity generation industry. This means that industrial sites generate their own power, selling the excess or buying shortfalls from the wholesale market (AESO 2012i).
- Alberta's electricity system is one of the least interconnected in the country, with limited capacity to either import or export electricity when such action is necessary to maintain the integrity of the grid. This affects prices and creates challenges for safety and reliability of the transmission grid (Government of Alberta 2008).
- The ability to import and export electricity is limited by the capacity of interties to BC Hydro and SaskPower. By comparison, Alberta's natural gas market is fully connected with the North American market, and the province is a significant exporter of gas. Not only is Alberta not in a position to export electricity (should surpluses be available), but limited import capability means that Alberta could not import as much electricity as it might need if shortages occurred. This constraint is especially significant in light of the fact that Alberta is a net importer of electricity.

Electricity typically flows from B.C. to Alberta during peak hours, and from Alberta to B.C. during off-peak hours.

Chapter

2

The Retail Market Review

The Need for a Review

Alberta restructured its electricity industry in 1996 with the implementation of the *Electric Utilities Act*[1]. Electricity generation was deregulated to introduce competition and encourage innovation that could provide Albertans with a reliable supply of electricity, adequate service, greener, renewable energy sources and lower prices (Alberta Resource Development 2000). Retail competition was established in 2001 to give Alberta consumers choices with regard to their electricity services.

Today—16 years after Alberta made the first bold steps toward electricity restructuring—many of these goals have been realized. Alberta has gained 6,800 megawatts of new generating capacity built by private investors—without incurring public debt (AESO 2012a). While there is always room for improvement, the electricity industry is vibrant and thriving, and electricity markets are healthy. Albertans' electricity prices are competitive with prices in other provinces. And consumers have the opportunity to buy their electricity from a retailer of their own choosing, and to shop for electricity products, features, benefits and terms that meet their individual needs.

Electricity by its nature is a commodity subject to significant swings in supply and demand that cause corresponding swings in prices. Retail competition has provided Albertans with an extensive choice of products that can address the volatility of electricity prices. Consumers who are not comfortable with the uncertainty of fluctuating prices can opt for retail service agreements that offer stable rates. Consumers who don't mind riding the ups and downs of price fluctuations can choose products that flow through the volatility of market prices, knowing that, averaged over time, this approach will give them the lowest power rates. At the same time, consumers who cannot or prefer not to choose a retail electricity provider have the option of paying a default rate.

The design of the default rate has undergone a number of changes since 2001. The current default rate—called the Regulated Rate Option, or RRO—changes monthly in response to changing prices in the forward market for electricity. The rate design strikes a balance between two sometimes conflicting objectives: consumers' desire for price stability and low prices. It uses one-month-forward hedges that expose consumers to the ups and downs of the real-time electricity market while still providing (in normal circumstances) reasonable prices that are not locked in for extensive periods. Longer-term hedges could reduce the month-to-month price fluctuations of electricity prices, but predictability and stability come with a cost. Locked-in prices can be higher than what consumers might otherwise pay.

DIFFERENT STROKES FOR DIFFERENT FOLKS

The trade-offs between stable and fluctuating electricity prices are like the trade-offs between a variable and fixed rate mortgage. Consumers who choose a variable or floating rate mortgage will see their monthly interest payments going up and down in response to market rates, but over the long term, they will generally pay less in interest costs. Consumers who opt for fixed rate mortgages pay more over the long term, but have the peace of mind of knowing that they pay the same rate each month, no matter what's happening in the market.

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[1] The *Electric Utilities Act* was passed in 1995 and came into force on January 1, 1996. Amendments that established retail competition were passed in 1998 and implemented on January 1, 2001. Other 1998 amendments took effect between 1998 and 2001 (Alberta Advisory Council for Electricity 2002, Appendix C).

In the winter of 2011-2012, a combination of severe weather conditions and conditions in the market system exposed Albertans to higher than normal price spikes. High prices are always a concern, especially for seniors and other Albertans with few resources and fixed incomes. And dramatic price fluctuations can put financial stress on families and small businesses that are unprepared for rate changes.

The Government of Alberta took steps to address these concerns.

On February 23, 2012, Premier Alison Redford announced a four-point plan to address the volatility and costs associated with electricity. The plan called for the Alberta Utilities Commission to freeze the following electricity-related costs: distribution, transmission, rate riders and administrative charges. It also called for an independent review of the default rate option in order to reduce electricity volatility and costs for consumers.

On March 22, 2012, Ministerial Order 32/2012 established the Retail Market Review Committee to analyze the default rate option and provide recommendations.

The review is timely.

The current default rate regulation expires in 2014 and Alberta's electricity market is at a crossroads. It is an ideal time to re-examine the issues related to retail market competition and the electricity market as a whole.

As stakeholders noted during the course of the review, what happens in the retail market affects the success and stability of the wholesale market, and vice versa. The fate of the default rate—whether it continues indefinitely, or is reconfigured, or removed—will determine the future of Alberta's retail electricity market. The Retail Market Review Committee's review will help legislators and policy-makers set an appropriate course for the future. It will help to ensure that any changes to the electricity system—and to the default rate—are in the best interest of Albertans.

The Scope and Mandate of the Retail Market Review Committee

On March 22, 2012, Ministerial Order 32/2012 established the Retail Market Review Committee, an independent committee of experts charged with reviewing the following issues within the context of Alberta's competitive retail electricity market:

- the need for a default rate for eligible customers, and the appropriate design of such a rate
- the manner in which the non-energy charges paid by retail customers are determined and approved

The committee's recommendations address the following questions, which arise from the terms of reference set out in the Ministerial Order:

- Is there still a need to provide a default rate for Albertans?
- If a default rate is required, what is its purpose?
- How can a default rate best be designed and delivered to address Albertans' concerns about the volatility of electricity costs?
- In what manner should the non-energy charges paid by customers be determined and approved?

In addressing these questions, the committee considered a number of issues:

- Is the retail market competitive? How do wholesale market dynamics affect the retail market?
- What are the barriers to entry? How do issues such as billing system requirements, system settlement protocols and forward market liquidity affect the development of the retail market?
- What are the barriers to switching? What should be done to ensure that Albertans have the knowledge and information they need to make decisions about buying electricity and using it as efficiently as possible?
- What measures are needed to ensure vulnerable Albertans have access to electricity services?
- How can the roles and responsibilities of the various sectors of the electricity industry best be designed to protect Alberta consumers and ensure reliable electricity services?

Committee Recommendations

The Retail Market Review Committee's recommendations on the issues set out in the Ministerial Order are outlined in Chapters 6, 7, 8 and 9 of this report. The committee's recommendations reflect the principles outlined in the Ministerial Order:

> a) Alberta has determined that consumers have the right to choose their electricity provider (Section 110 of the *Electric Utilities Act*);
>
> b) The essential nature of competitive contracts will not be affected by the review. This means there will be no unwinding of existing competitive contracts;
>
> c) Any default rate (currently the RRO) will not provide unfair advantages to any market participant (Section 5(c) of the *Electric Utilities Act*); and
>
> d) The Alberta electric energy system will continue to be a user-pay system. It is not the role of the Government of Alberta to subsidize the cost of electric energy to Albertans. (Minister of Energy 2012, p. 6)

In developing its recommendations and positions, the committee tried its best to consider all points of view presented, and to take into account as much detail as possible.

The committee's recommendations reflect its best effort to address two high-level principles and concerns—seeing that consumers benefit from retail competition and moving Alberta forward to a more innovative, efficient and dynamic retail market. Committee members would be the first to acknowledge that they were only able to deal with some questions at a high level. It was simply impossible for four people to absorb all of the issues and produce a detailed and definitive set of recommendations in a few months. In any case, many of the details pertaining to the committee's proposals are best left to policy-makers and stakeholders to work out.

The Review Process

The Retail Market Review Committee took a methodical, analytical, consultative and evidence-based approach to its assignment.

Committee members reviewed literature about deregulated electricity markets in North America and around the world. They met with and gathered information from the expert agencies that form the backbone of Alberta's electricity industry. They consulted with internationally recognized electricity experts. They heard presentations and reviewed submissions from stakeholders representing all aspects of the province's electricity marketplace—electricity generators, transmission and distribution system owners, retail electricity providers, cities and municipalities, small and large electricity-related businesses, and rural and urban consumer associations. And they reached out to the citizens of Alberta to get a sense of consumers' ideas, opinions and concerns about electricity.

In all of its work, the Retail Market Review Committee endeavoured to maintain a fair, open process that was accessible to all Albertans. The committee's sessions with stakeholders and experts were broadcast live on the Internet, and session recordings have been archived on the project website at www.rmrc.ca.[2] Presentations and written submissions provided to the committee are also available on the website.

Stakeholder Consultations

On April 16, 2012, the Retail Market Review Committee issued a letter to 49 stakeholder groups representing Alberta consumers, generators, utility companies and retail suppliers. The letter invited stakeholders to make presentations and provide input on 22 questions drawn from Ministerial Order 32/2012, the directive that guided the committee's work.

Twenty-one organizations forwarded written submissions and made presentations to the committee at sessions held in Edmonton (May 28 to June 1) and Calgary (June 4 to June 8). An additional five organizations made written submissions in response to the committee's questions, but did not present.

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[2] Stakeholders and experts who wished to share commercially sensitive information with the committee could request that this information be kept confidential. The committee honoured these requests by holding closed-door sessions and keeping sensitive data confidential. The committee's sessions with international experts were not recorded.

Audio recordings, presentation materials and written submissions (including follow-up information submitted in response to committee members' questions) are available at www.rmrc.ca.

For a list of organizations and individuals who submitted information or met with the committee, see Appendix 1.

Expert Advice

In developing its recommendations, the committee considered expert advice from a broad range of expert agencies. These included:

- regulatory and supervisory bodies such as the Alberta Utilities Commission and the Market Surveillance Administrator
- government ministries that deal with electricity-related issues
- the Utilities Consumer Advocate, which represents the interests of consumers and ensures that electricity costs are fair and reasonable
- other agencies that play a direct role in Alberta's electricity marketplace
- internationally recognized experts

Over the course of its review, the committee met with and heard presentations from five expert consultants and 10 expert agencies representing industry and government. The committee summarized what it heard from these stakeholders in Appendix 6.

For a list of experts and expert agencies, please see the Appendix 1.

Consumer Input

Between May 11 and May 22, 2012, 2,000 Albertans participated in a province-wide telephone survey designed to provide the Retail Market Review Committee with detailed information about Alberta's electricity consumers and consumer opinions about the electricity they use in their homes. The survey captured the views of a representative sample of Albertans from all regions of the province.

Between May 15 and July 23, 2012, 805 Albertans logged in to share their opinions through a non-scientific online survey on www.rmrc.ca.

For details about the Retail Market Review Committee's telephone surveys and for a summary of results, see Chapter 5. Complete survey results are available in Appendix 6 and on www.rmrc.ca.

The Default Rate: Its Present, Past and Purpose[3]

How It Evolved

When Alberta's retail electricity market opened to competition in 2001, consumers who did not actively choose a retail electricity provider continued to buy power from the provider that had supplied them before industry restructuring—that is, from the distribution system owner responsible for their part of the province[4]. Consumers bought power from this provider by default (because they had not chosen a different provider), and paid a regulated default rate. As they can today, consumers could leave their default provider at any time and buy their electricity from any one of a growing number of retail electricity providers in the competitive marketplace.

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[3] Except where noted, information in this section is drawn from the following sources. (See the bibliography for details.)
Alberta Department of Energy, *Alberta's Electricity Policy Framework* (2005) and *Retail Market Review* (2010).
Alberta Energy, *Power of Competition* (no date) and *Moving to Competition* (1996).
Alberta Resource Development, *Power of Choice* (2000).

[4] In some cases, distribution system owners contracted with other companies to supply customers. Atco, for example, hired Direct Energy, a seperate company, to be the regulated rate provider in the Atco service area.

Since 2001, distribution system owners have been responsible for providing a default rate to customers in their service areas who have not selected a competitive retail electricity provider. The design of the default rate and the costs it can include are specified in legislation and approved by the appropriate regulator.

- The Alberta Utilities Commission[5] approves the default rate offered by Epcor in the City of Edmonton and FortisAlberta service areas, Direct Energy in the Atco service area and Enmax in the City of Calgary.
- In Cardston, Ponoka, Crowsnest Pass, Lethbridge, Red Deer and Fort Macleod, city councils approve the default rate.
- For members of rural electrification associations (REAs) in rural Alberta, the default rate is approved by the board of directors of the local REA.

Regulatory approval of the default rate relates to costs that can be passed on to customers: these include reasonable, "prudently incurred" costs for service delivery, risk premiums and a fair profit margin. Today default rates that are regulated by the Alberta Utilities Commission are approved on the basis of an energy price-setting plan (EPSP) submitted by each distribution system owner. The EPSP sets out how energy will be procured for customers and how the rates paid by customers will be calculated. The cost of electricity, the cost of procurement, administrative costs and risk premiums are included in the rates paid by customers. Because energy price-setting plans are owner specific, and because a number of regulatory bodies are involved, consumers in different parts of the province pay a different default rate.

The Alberta Utilities Commission approves energy price-setting plans in regulatory proceedings that include consumer groups and other interested parties. When distribution system owners wish to change their rate, they must apply to the commission to have a new plan approved. Final approvals for the two-phase application process can take 12-16 months.

The actual design of the default rate and rules for how electricity is procured are set out in the 2005 *Regulated Rate Option Regulation*, which came into effect on July 1, 2006. The regulation specifies one-month-forward procurement of electric energy sold to default-rate customers. Before this date, the regulated rates changed on a quarterly basis (DOE 2010b). Regulations did not specify how or when energy supplies were to be procured (MSA 2006), and default rate providers developed energy supply portfolios of their own design. Many of these portfolios included both long-term and short-term hedges. Many providers purchased long-term supply contracts to provide stable electricity pricing for their default rate customers.

The original default rate, introduced on January 1, 2001, was intended to give the retail market time to develop, and to give consumers time to get familiar with the market and the choices that were now open to them. The 2001 rate was designed as a transitional rate that was to be in effect for a set period of time:

- Albertans who used less than 250,000 kilowatt hours of electricity per year could remain on the default rate for five years, until December 31, 2005.
- Albertans who used more than 250,000 kilowatt hours of electricity per year could remain on the default rate for three years, until December 31, 2003.

It was "intended to be a last resort rate and was necessary to provide time for market participants to make decisions and to ensure that all Albertans would receive electricity during the transition period" (DOE 2010b, p. 6).

As the expiry date for the original default rate drew near, it became apparent that the retail electricity market was not yet as robust as anticipated. By April 2005, 70% of industrial and 37% small commercial consumers had switched to competitive retail electricity providers. Only 7% of residential and farm consumers had switched (DOE 2005a, p. 9). This was due to number of "barriers and complexities" for consumers and for retailers (DOE 2005a, pp. 10, 17-18). The Department of Energy, the Alberta Utilities Commission and industry stakeholders are making progress in addressing these barriers, but even today, outstanding issues remain.

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[5] Before 2008, default rates were approved by the AUC's predecessor, the Alberta Energy and Utilities Board.

REMOVING BARRIERS TO RETAIL MARKET DEVELOPMENT: PROGRESS TO DATE

- Barriers to entry for retailers (including the cost of customer acquisition, billing system complexity and costs, settlement costs and credit requirements) are being addressed by implementing service quality standards for distribution system owners, resolving outstanding settlement issues, standardizing data transfer protocols and reviewing security deposit and credit requirements for retailers.
- Some barriers to switching for consumers were addressed by developing plain language retail contracts for consumers and streamlining retailer access to consumer information.
- Deferral accounts to compensate for retail price caps introduced in 2001[6] were closed off between 2002 and 2004, with the result that the market could operate without constraints.
- Non-discriminatory access to distribution systems was improved by standardizing policy and regulations.

Since barriers remained in 2005,[7] the Department of Energy recommended that a transitional default rate was still required. In its 2005 electricity policy framework—developed after two years of stakeholder consultations—the department recommended that, by 2010, the existing default rate should be replaced by a new rate based on monthly forward prices (like the natural gas default rate). One-month-forward hedges would be implemented in increments between July 1, 2006 and June 30, 2010. The department considered a range of options in making its recommendation.

> The most significant advantage of the...[monthly forward hedge] design over any other design considered by the Department is that it fully embodies the "transitional nature" of moving toward a competitive retail market. It accomplishes this by continuing to provide...some degree of price protection...[and minimizing] the need for price true-ups. (DOE 2005a, p. 2).

The department viewed the continuation of a default rate as one of a number of measures required to protect consumers as the electricity market continued to develop, noting that consumer awareness and education and the removal of barriers for retailers and for consumers were vitally important.

The purpose of the current default rate, which was implemented between 2006 and 2010, was to strike a policy balance that "allowed for an orderly transition to a competitive retail market" in which consumers and retailers felt "comfortable with the choices and opportunities available" (DOE 2005a, p. 11). The assumption was that the combination of a healthy, competitive market, consumer protection legislation (such as the *Fair Trading Act*) and consumer advocacy (by agencies such as the Utilities Consumer Advocate) would provide consumers with appropriate consumer protection.

The default rate introduced in 2006 was designed to minimize the impact on consumers as the old rate transitioned into the new. One-month-forward hedges moderated price fluctuations. The gradual introduction of these hedges gave consumers time to adjust and a good foundation of information for making decisions about buying electricity. The intent was that by 2010, at the end of the transition period, consumers should be prepared to make informed choices about staying on the default rate or selecting a competitive retail product (DOE 2005a, p. 2).

How It Works

Like the transitional rate that preceded it, the current default rate—called the Regulated Rate Option, or RRO—is designed to facilitate the development of the retail market while giving consumers time to adjust to retail competition. As required in the *Regulated Rate Option Regulation*, which expires on June 30, 2014, the current default rate is based

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[6] Details about these price caps are included in Appendix 2.

[7] Progress has been made, but some of the barriers that faced the retail market in 2005 persist. The Retail Market Review Committee's recommendations for addressing these barriers are discussed in chapters 6 and 7.

Table 2. Percentage and number of Alberta consumers who pay the default rate for electricity, by consumer class, 2005 and 2012

	Residential Sites		Farm Sites		Small Commercial Sites	
April 2005	93%[8]				63%	
April 2012	66%	862,189	74%	79,269	50%	90,101

Sources: Data calculations for 2012 are based on Alberta Department of Energy, Electricity Statistics Information System, "Switching Percentage by Group," www.energy.gov.ab.ca/electricity/esi/Table1_Electricity_Alberta_ByGroup.pdf. Data for 2005 are from *Alberta's Electricity Policy Framework* (DOE 2005a).

on a regulator-approved, provider-specific, Energy Price-Setting Plan (EPSP) based on one-month-forward pricing.

One-month-forward hedges expose consumers to the ups and downs of the real-time electricity market, but to a lesser degree than other rate designs would do.[8] At the same time, they provide reasonable prices that are not locked in for extensive periods. Longer-term hedges could reduce month-to-month price fluctuations, but predictability and stability come with a cost. Longer-term hedges could lock in prices, but these prices could be higher than what consumers might otherwise pay.

In its presentation to the Retail Market Review Committee, the Independent Power Producers Society of Alberta noted that, in 2000, default rate providers were required to procure one-year products to provide price stability as the market moved toward competition. The result was that, in 2001, electricity prices for default-rate consumers ranged between 15 and 18 cents per kilowatt hour. When natural gas prices fell in 2001, wholesale electricity prices fell correspondingly. The spot price of electricity averaged 7.1 cents per kilowatt hour—significantly less than what consumers were paying for the default rate. Government-imposed rate caps and deferral accounts established to address this disparity put customers at a disadvantage and hampered the development of the retail market.

Who It's For

The default rate (currently, the Regulated Rate Option) is available to eligible consumers who cannot or choose not to buy power from retail electricity providers in the competitive market. The following classes of consumers are eligible for the default rate:

- small commercial consumers who use less than 250,000 kilowatt hours of electricity
- all residential, farm and irrigation consumers

DEFAULT SUPPLY

Albertans who consume more than 250,000 kilowatt hours of electricity per year are not eligible for the Regulated Rate Option. Rather, if they have not selected a retail electricity supplier, their distribution system owner is obligated to appoint a retailer to provide them with "default supply." The price they pay for default supply is determined by that retailer, plus whatever administrative fee the retailer wishes to add. Neither the price nor the administrative fee are regulated.

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[8] In its 2005 electricity framework, the Department of Energy noted that a monthly forward rate design could reduce price fluctuations by 25-50% more than a spot market flow-through rate design.

Who Uses It

As of April 2012, one-third of Alberta's residential consumers, one-quarter of farm consumers and one-half of small commercial electricity consumers had switched from the default rate to a retail electricity provider. As shown in Table 2, the majority of residential and farm consumers continue to purchase electricity from their default provider and pay the default rate. The proportion of consumers on the default rate has declined considerably between 2005 and 2012.

PREREQUISITES FOR SWITCHING

In a 2005 paper on electricity policy options, the Department of Energy set out the following criteria that must be in place in order for consumers to embrace their right to retail choice:

- knowledge about what retail electricity competition means to them in practical terms
- confidence that their electricity service provider is reliable.
- some degree of rate or price stability and protection against significant price swings
- ease of choice and an efficient, easy-to-understand switching process
- reasonable rates
- billing accuracy and certainty
- service efficiency (value-added service when they call their retailer)
- green products

Chapter

3

The Retail Market

Market Description

Alberta's retail market opened to competition in 2001. Prior to this, consumers purchased their power from one of three large vertically integrated utilities (TransAlta, Epcor and Atco) or from their local rural electrification association (REA) or municipality. Today—in addition to REAs and municipalities—three large and nine small retailers serve the province, offering small consumers about 50 electricity offerings. More than 20 companies compete to sell power to large commercial and industrial consumers, who use about 80% of the power consumed in Alberta (AESO 2010g).

Alberta's large retailers are Direct Energy, Enmax Energy and Just Energy. Each of these retailers is or has been associated with one of Alberta's major electric distribution utilities: Direct Energy with Atco Electric, Enmax Energy with Enmax Corporation (Calgary) and Just Energy with Epcor Distribution and Transmission (Edmonton).

Alberta's nine small retailers are associated with the Calgary-based company Utilitynet, which also provides billing services to self-retailers.

Retail electricity providers sell power to 1.6 million sites in Alberta (DOE 2012i). These include:

- 1.3 million households (81% of the total sites)
- 107,000 farms (7%)
- 179,000 small businesses (11%)
- 17,000 large industrial sites (1%)

Homes and farms account for 88% of the sites served by retailers, but only 16% of the electricity sold in the province.

Since 2001, Albertans have been free to choose which company they wish to buy their electricity from. If they select a retail electricity provider, they enter into a retail service agreement (contract) that specifies the price they pay and the services they receive. Residential customers, farm customers and small commercial and industrial customers who prefer not to choose a provider are eligible to remain on a default rate (the Regulated Rate Option, or RRO) if they use less than 250,000 kilowatt hours of electricity per year. "Regulated retailers set their rate using a formula approved by the Alberta Utilities Commission. Competitive retailers set their rate independently." (UCA n.d.-d).

For details about the number of customers on the default rate, see Table 2 on p. 39.

Types of Retail Electricity Providers

Retail electricity providers are the heart of Alberta's industry. Like any competitive business, retail electricity providers only survive if they serve customer needs. Providers who best meet customers' needs succeed in the marketplace.

Although every provider faces the same business realities, retail services can be provided in several ways.

Regulated Rate Providers

By default, Albertans who have not chosen a retailer automatically buy power and receive service from the regulated rate provider designated for their region of the province. The price offered by default or regulated rate providers is called the Regulated Rate Option—the RRO.

The service provision and rates of RRO providers are regulated by the Alberta Utilities Commission, which allows these providers the opportunity to recover all their reasonably incurred costs plus a reasonable profit margin from consumers. The way the regulated rate providers obtain power from the market is specified by the *Regulated Rate Option Regulation*, and the price they charge their customers is determined by market conditions.

Under the *Electric Utilities Act*, distribution utilities are responsible for providing the RRO to eligible customers in their service territories. Distribution utilities have the option of providing the RRO directly or through a designated agent.

CHOICES AND GIVENS

While Albertans are free to choose their retail electricity provider, they are not free to choose the distribution system owner (wires owner) who delivers electricity to their homes and businesses.

- **Epcor provides the RRO in its own Edmonton-region distribution service area. It is also the designated RRO provider for FortisAlberta.**
- **Enmax provides the RRO in its Calgary distribution service area and in Cardston, Crowsnest Pass, Fort Macleod, Ponoka and Red Deer.**

Direct Energy is the designated RRO provider for Atco's distribution service area.

Default Suppliers

Large customers who use more than 250,000 kilowatt hours of electricity per year are not eligible for the Regulated Rate Option. Large customers who have not signed agreements with retail electricity providers receive electricity from default suppliers at an unregulated rate (AUC 2008). Default suppliers are free to set the rates, terms and conditions for their customers.

Under the *Electric Utilities Act*, distribution system owners are responsible for providing service-territory-specific default supply services to large customers who have not signed agreements with retail electricity providers.[1]

Competitive Retail Electricity Providers

Competitive retail electricity providers offer their customers a variety of price and service options. "Customers can choose the retailer that offers them the best combination of price, services and features suitable for their particular needs" (Alberta Resource Development 2000, p. 4). Examples of customer service features could include green power, time-of-use meters that bill consumers at one rate during peak hours and a lower rate during off peak hours, flexible payment dates and one-stop shopping for services such as electricity and natural gas (Alberta Resource Development 2000, p. 4). Some of these features are currently offered by Alberta's retail electricity providers, who may be major corporations or small, locally based "niche" or "boutique" retailers.

Rural Electrification Associations

Rural electrification associations (DOE 2012f; Alberta Agriculture, 2012a) are not-for-profit rural cooperatives that provide and distribute electricity to their members. A number of REAs also offer competitive electricity contracts to their members (Alberta Agriculture 2012f).

In the 1940s, the Alberta government encouraged the establishment of local electrification associations to meet the post-war demand for electrical power in rural areas (Glenbow n.d-a). At that time, Alberta's large, investor-owned utilities were busy establishing power service in heavily populated parts of the province (DOE 2012 b [presentation]), and it was not profitable for them to supply electricity to farm homes (Shulze 1989). The only way farmers could get electricity was to form cooperatives and build power systems on their own. With financial help from the provincial government, they installed poles and wires and operated their member-owned electricity systems directly or through contractual arrangements with utilities companies.

Six small rural power cooperatives were established in Alberta by the spring of 1945 (Shulze 1989). That year, farms constituted less than 1.5% of customers served by the province's major utilities companies.

Alberta's first REA was established in 1948. Today, 41 REAs serve more than 43,000 members across the province. Seven REAs (representing 63% of REA members) are self-operating, which means they own, operate and maintain their wires, and sell power to members through competitive contracts or regulated rates. The remaining REAs own their wires but contract maintenance and operations to the investor-owned utility that serves their part of the province.

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[1] Under the *Roles, Relationships and Responsibilities Regulation*, distribution system owners must appoint a competitive retailer to be the default supplier their service areas.

REAS BY THE NUMBERS

The 20 REAs in the Atco service territory of northern and east central Alberta serve nearly 10,000 members. One self-operating REA is included in this number. It serves nearly 1,400 members.

In the FortisAlberta service territory of southern Alberta, 21 REAs serve more than 33,000 members. Six self-operating REAs are included in this number. They serve nearly 26,000 members (Alberta Agriculture 2012).

Unlike Alberta's investor-owned utilities, REAs do not have a designated franchise area. Rather, their role is to establish service through wires investments made through the cooperative and to provide power to their members. REAs provide these services within their traditional service boundaries.

In the past, people who lived in a rural area where there was an REA had to be members and receive power from that REA. Now that investor-owner utilities offer services in rural areas, some rural residents receive their power from Atco or FortisAlberta. In addition, some REAs wish to serve customers who are not members. The issue of rights to customers has become a matter of contention in some parts of the province: REAs are claiming rights to serve non-members, while utility companies are claiming rights to serve customers who live in traditional REA areas but do not wish to be members or to receive services from REAs. Until this issue is resolved, consumers in some rural areas face barriers in accessing retail energy services of their choice.

Self-Retailers

Customers can act as self-retainers to obtain electricity for their own use (AESO 2012k; *Electric Utilities Act*). Self-retailers must be capable of handling the required electronic business transactions. Most self-retailers rely on billing agents to provide this service.

Retail Requirements

Retailers who wish to sell electricity in Alberta must meet a number of requirements (AUC 2008; DOE 2012f):

- They must be licensed by Service Alberta (under the *Fair Trading Act*) and post a $1 million bond.
- They must abide by a code of conduct set by Service Alberta, which outlines strict rules with regard to issues such as customer confidentiality, fair treatment and the marketing of their retail services.
- They must post security deposits[2] with the Alberta Electric System Operator (to buy electricity from the power pool) and with the Natural Gas Exchange or other brokerages (to purchase financial hedges on their contracts for supply).
- They must post security deposits with each distribution company (for using their wires).

Oversight

Alberta Agriculture and Rural Development

Alberta Agriculture and Rural Development provides regulatory oversight of the province's rural utility cooperatives, including rural electrification associations, and ensures compliance with the *Rural Utilities Act*. The ministry works with REAs on matters of governance, providing advice on best practices and resolving disputes between members.

Alberta Department of Energy

The Department of Energy develops acts and regulations that guide and support the development of a competitive retail electricity market.

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[2] In the electricity industry, security deposits are called prudential requirements.

Alberta Utilities Commission

The Alberta Utilities Commission regulates electricity distribution system owners and RRO providers, setting their rates and approving their terms and conditions of service. The AUC also develops and enforces service quality standards and rules on matters relating to the conduct and operation of Alberta's retail electricity market. It facilitates the standardization of business practices with regard to system settlement, tariff billing and other matters (AUC 2012 [presentation]). System settlement (load settlement) rules define how the Alberta Electric System Operator bills retailers for the energy they purchase for their customers. Tariff billing rules define the information that distribution systems must provide to retailers so that the latter can produce accurate customer bills.

Market Surveillance Administrator

The Market Surveillance Administrator has broad powers of surveillance, investigation and enforcement in the electricity industry. The MSA monitors Alberta's retail market, and is particularly active in monitoring energy procurement under the Regulated Rate Option. The MSA is also responsible for enforcing the *Code of Conduct Regulation* that governs the relationship of retail electricity providers and their customers.

Service Alberta

Service Alberta provides consumer protection services through its administration of the *Energy Marketing and Residential Heat Sub-metering Regulation* under the *Fair Trading Act*. The regulation requires that retail electricity providers (except for rural electrification associations) be licensed[3] and post a security bond as high as $1 million. It specifies a code of conduct for marketers and lists specific information (including cancellation rights) that must be included in service agreements between retailers and their customers.

The Office of the Utilities Consumer Advocate falls under the jurisdiction of Service Alberta.

Utilities Consumer Advocate

The Utilities Consumer Advocate provides customer advice and mediation services in utility service disputes, and represents small consumer interests in regulatory hearings before the Alberta Utilities Commission. Through its website and print publications, the UCA ensures Alberta consumers have the knowledge and tools they need to make informed choices about purchasing electricity. The Utilities Consumer Advocate also represents Alberta consumers' interests in regulatory hearings before the Alberta Utilities Commission and in policy discussions with the Alberta Department of Energy and related Government of Alberta agencies.

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[3] The amual licence for electricity marketers costs $1,000.

The Retail Electricity Provider's Role

The retail electricity provider is the point of contact between the electricity system and the electricity consumer. Most Albertans purchase electricity from a retail electricity provider.

Overall Responsibilities

Retailers sell electricity to their customers. To do this, they provide the following services and perform the following tasks (*Electric Utilities Act*; UCA n.d.-d)

- buy the electricity their customers need
- arrange for energy delivery and metering services for their customers through agreements with distribution system owners
- produce monthly customer bills based on meter readings that report their customers' electricity usage
- keep records and manage customer accounts
- collect payment from customers, including charges for electric energy, energy delivery and other fees
- provide customer services

Retailers can also provide a range of electricity services, limited only by their creativity and customer demand.

MANAGING VOLUME AND PRICE UNCERTAINTY IS KEY.

Selling electric energy is a "continuous consumption" business like selling water or natural gas. When retailers accept new customers, they do not know exactly what volumes of electricity these customers will consume at any time in the future. The customers don't know this either, even though the volume uncertainty is driven by the customers' own actions.

Retailers also have to manage price uncertainty. Electricity has the most volatile and uncertain prices of any commodity, sometimes jumping from $0 to $999.99 per megawatt hour and back again in a few hours. Price uncertainty has nothing to do with customers' actions: it is driven by external market forces.

Energy Procurement

The energy procurement practices used by RRO providers are established in legislation.

Retail electricity providers buy large volumes of electricity from the power pool or from electricity forward markets, then sell smaller packages of electricity to their customers (UCA n.d.-a). Their procurement practices typically include a combination of long-term and short-term purchases. Purchase are made in a number of ways, some of which include trading through electricity brokerages and stock exchanges such as the NGX (Natural Gas Exchange), purchases from the power pool, bilateral agreements with generators, power purchase arrangements (for terms up to 2020) and requests for offers.

In Alberta's market structure, retailers are automatically supplied with whatever energy their customers require and are charged the hourly pool price. (Section 5(1e) of the *Electric Utilities Act* ensures that this pool price flow-through option is made available to retailers.) Since the pool price changes hourly and can be extremely volatile, many retail service providers offer their customers price insurance in the form of fixed-price offerings. The two main ways retailers can provide fixed-price offerings are through financial instruments or through bilateral agreements.

In principle, financial instruments are the most efficient method of managing price risk. Where markets have many willing buyers and sellers, they enable the transfer of risk to the parties best able to manage it. Financial instruments generally cover specified energy volumes, which places the volume risk on retailers. Bilateral agreements between generators and retailers appear to be the most common risk management tool in Alberta.

Billing

Retailing electric energy is essentially a financial process in which suppliers invoice retailers for the electric services that their customers have used, and retailers bill customers for the services that they have used.

Section 112(1) of the *Electric Utilities Act* stipulates that only a retailer or affiliated retailer can bill a customer. Customer bills include the cost of the energy purchased from the retailer. Bills also include delivery charges from the distribution utility that builds and maintains distribution wires, delivers electricity, reads meters and answers emergency calls. The tariff billed by distribution system owner includes the cost of distributing electricity from the distribution substation to the customer's meter. It also includes transmission charges, which the Alberta Electric System Operator bills to the distribution system owner, and which the latter passes on to the retailer, who passes them on the customer.

Each calculation is simple—but every customer's invoice is based on thousands of detailed calculations. To handle this volume of information, retailers need very large computer systems specialized in handling Alberta's unique rules and complex electronic business transactions.

When a customer switches to a new retailer, the retailer sends an electronic transaction to the local load settlement agent notifying it of the switch. From that date forward, the new retailer will be invoiced for the customer's energy usage, and the old retailer will no longer be charged.

Retailers and Wire Owners: Working in Partnership

Purchasing energy for customers and delivering energy to customers are separate functions. Although retail electricity providers purchase the electricity their customers need, the physical delivery of electricity to customers' homes and businesses is the responsibility of distribution system owners who maintain and operate local electricity lines. Electricity distributors accept electricity from the transmission system at various points of delivery, where interval meters measure the electricity by the hour (AUC 2011a). Cumulative meters at customers' homes, farms and businesses measure the total amount of electricity used in a month. Load settlement agents allocate this energy into an hourly distribution that can be used for billing purposes.

Meters and Meter Reading

Smaller customers have simple cumulative meters that record only the amount of energy used. These meters are read monthly according to a fixed schedule. As a result, smaller customers' rates can have only two components: a per-unit energy charge and a per-day fixed charge.

Larger customers have more complex interval meters that record the amount of energy used between monthly meter readings. These meters also record the highest rate at which energy was used during the month. This rate, called "peak demand," is used in bill calculations. Peak demand can be compared to the maximum speed at which the family car was driven in the last month. It measures something that may have happened only once in a given period. Since transmission and distribution systems must be permanently sized to meet each customer's peak demand for electricity, demand charges continue from month to month whether or not the customer consumes electric energy. Like the cost of an engine sized for passing when needed, this capacity cost has to be paid for whether it is used or not.

Since meters are not read on calendar-month boundaries, distribution companies carry out standardized calculations to estimate each customer's calendar-month usage. These standardized estimates can also be used to estimate consumption when customers switch retailers or move in or out. Most importantly, they can be used to calculate hourly energy charges flowing from the hourly pool price of power. This is the basis of load settlement.

Alberta's largest electricity customers have interval meters that record the amount of energy used in each hour. This makes it possible for the Alberta Electric System Operator to charge these customers the hourly pool price without any intermediary load settlement calculations. It also allows large customers to change their electricity usage patterns when prices are high.

Smaller customers in Alberta do not yet have access to interval meter technology, although it has already been introduced in jurisdictions such as Ontario and Texas.

Load Settlement

Load settlement is the process through which the distribution utility's metering function and the retailer's billing function are brought together. The end result of the load settlement process is the determination of the hourly consumption of electricity for each customer in Alberta.

"Distribution system owners are responsible for conducting load settlement calculations within their service areas" (AUC 2011a, p. 16). Atco, Enmax, Epcor and FortisAlberta act as their own load settlement agents. In the remaining six zones of Alberta, each distribution system owners has authorized a third party to conduct load settlement on its behalf.

Load settlement information is provided to the Alberta Electric System Operator (AESO), so retailers and regulated rate providers can be invoiced for the electricity they purchase for their customers and exchange through the power pool. It is also provided to retailers and to regulated rate providers so customers can be billed for the electricity they use. The AESO is responsible for the financial settlement for all electricity exchanged through the power pool at the pool price. "Because the wholesale pool price varies on an hourly basis, the AESO must bill retailers for their customers' electricity consumption according to the hour it was used" (AUC 2011a, Appendix 2, p. 16).

Electricity distributors accept electricity from the transmission system at various points of delivery, where interval meters measure the electricity by the hour (interval meters). (AUC 2011a). Except for large consumers, electricity customers in Alberta have cumulative meters that measure how much power was used in the one-month period since the meter was last read. The load settlement agent must allocate each customer's monthly total in any given month. Load profiles are used to make this allocation. Sometimes these profiles are based on the typical consumption patterns of comparable consumers; sometimes they are based on information recorded by the interval meter at the point of delivery from the transmission system to the local distribution system.

Further calculations follow:

> Hourly customer consumption, plus the estimated distribution line losses, will never equal the metered hourly consumption at the point of delivery. The difference is called Unaccounted for Energy (UFE). UFE is calculated and converted to a percentage that is then applied to the profiled consumption of each customer with a cumulative meter and to the measured consumption of each customer with an interval meter.
>
> At the end, the load settlement agent has the information by hour by customer to provide to the AESO, so that the AESO can determine how much electricity each retailer must pay for (AUC 2011a).

Financial Flows

Retailers receive two types of invoices: one from the local distribution utility and one from their suppliers of electric energy. In the simplest case, a retailer receives just two invoices, one from the local distribution company for distribution services and one from the Alberta Electric System Operator (AESO) for electric energy. These invoices are both calculated according to rules approved by the Alberta Utilities Commission in an open public hearing process.

Load settlement agents gather electricity consumption data from customers' meters and allocate this across the hours in a month. The allocation is provided by the AESO, and forms the basis of the invoice the AESO sends retail electricity providers to recover the cost of energy the providers have purchased for their customers. The AESO's invoices to each retailer are based on the hourly energy consumption of each of the retailer's customers. When retailers pay these invoices, the AESO forwards the money to the generators who produced the power, and the circle is closed.

The local distribution utility also calculates the retailer's invoice for transmission and distribution services. When the retailer pays the utility's invoice, the utility forwards the money to its various suppliers, and remits the transmission tariff to the AESO. The AESO pays the appropriate transmission facility owner based on that owners invoice. The circle is closed.

In its simplest form, a retailer's business is a straightforward matter of paying supplier invoices and collecting the money from customers. The devil is in the details. Retail invoices are part of a river of data that is unlike anything anywhere else in the world. Retailers need large, complex, Alberta-specific systems to function. These business system requirements have been a major barrier to the growth of the electricity retail market. The Retail Market Review Committee's recommendations for removing this barrier are presented in Chapter 7.

Energy Charges

When retail electricity providers receive AESO invoices, they use customer-specific metre data and the terms of their agreement to bill their customers for the cost of energy. Customers pay the retailer. The retailer pays the AESO. The AESO pays the generator.

Delivery Charges

The retail electricity providers receives invoices from distribution system owners, and most customer-specific retailers flow these distribution and transmission charges directly through to their customers. Customers pay the retailer. The retailer pays the distribution utility. The distribution utility pays the AESO for the cost of transmission. The AESO reimburses the transmission facility owner.

Energy Services: The Retail Markets of the Future

The path from the generation of electricity at the power plant to the purchase by the consumer seems complex, but the consumption of electricity is even more complex. The complexity lies in the thousands of choices that millions of people make every day with regard to end use devices that use electricity. Each individual has different end use devices and each uses these devices in different ways.

For much of the past century, the electricity industry lumped all consumers together into what it called the "load" on the electric system. That approach worked well while the industry was maturing and costs were declining. But in the 1970s it became apparent that a deeper analysis and more complex treatment of customer loads would reveal interesting opportunities for efficiency. It is now common knowledge that people actually purchase energy services. Recognizing the service-oriented nature of the electricity industry can benefit everyone.

The Energy Services Market

The retail electricity service market functions at the level of the end user of the commodity. In doing so, the market has been competitive since the dawn of the industry. That is, different consumers have made choices about the design of their homes, the types of fuel consumed to make these homes comfortable or to make the tap water hot, the level of protection (electricity quality) needed for delicate electronic equipment, the level of reliability needed for backing up computer data and the particular attributes of appliances and devices. All these devices are part of a fully competitive energy service market. People choose whether to shop at a big box store, call the local contractor or do things themselves. Similar choices hold true for electricity, and as the cost of energy rises, people are realizing they should not be sloppy about their choices.

The term "energy services" covers a variety of functions relating to consumer wants and needs, including services relating to price-risk management, appliance purchase and maintenance, energy usage management, reliability, power quality assurance, direct load control and other value-added services relating to billing and payment or customer convenience. The interaction of the retail market (sale of electricity) and the energy service market is very important. It sparks the emergence of new services and pricing options that will allow consumers to better manage their electricity use and increase the value received.

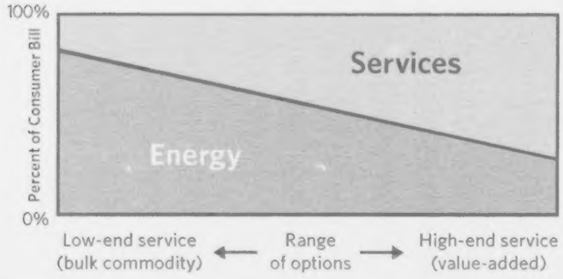
An understanding of the relationship between wholesaling and retailing is useful. In wholesale markets, consumers receive electric power as a commodity, typically in bulk quantities delivered on a guaranteed or as-available basis to a particular location at a particular time. In retail markets, consumers receive a unique set of bundled energy services. These energy services include the electricity commodity, but there is a distinction between the commodity and the services associated with it. Some may view this as a continuum with "all commodity" and "all service" as extremes, and different combinations of the two constituting the energy bill.

Large consumers typically self-provide the services they need, and therefore spend a larger portion of their total bill on the commodity. Their cost per unit of the commodity is lower. In the extreme, very large consumers have interruptible power service options where the level of reliability is much lower than system reliability. They receive a lower value of service at lower cost in return for providing capacity resources or ancillary services as required by the system operator. Some large consumers own their own transformer and step-down transmission voltage on site, or own power conditioning equipment to customize what they purchase.

Small consumers may differ in their preferences as well. However, under one-size-fits-all regulation, most small consumers have a level of service (reliability, billing and customer care) defined for them by the utility, its regulators and various interest groups.

Figure 8.

A conceptual display of the range of energy service options



Source: Adapted from Jan Hamrin, W. Marcus, C. Weinberg and F. Morse, *Affected with the Public Interest: Electric Industry Restructuring in an Era of Competition* (National Association of Regulatory Commissioners, 1994), p. 146.

Unlike the energy commodity market, the energy service market includes substitutes for electricity. More substitutes become economically attractive as the price of electricity rises, and as decisions are made to unbundle services. Unbundling allows consumers to pick and choose according to their preferences.

An appropriate level of unbundling allows all consumers to invest more on their premises—that is, to substitute premises-based services for electricity services. Such investments could be for on-site generation (small power plants), equipment that allows fuel switching as energy prices change, appliances that offer greater efficiency of use, energy storage devices or load monitoring and control equipment. Additional opportunities may arise from third-party suppliers of risk management and aggregation services. In order for consumers to take advantage of such opportunities, regulatory authorities must recognize that the unbundling of services may have a benefit. Each opportunity requires the forging of new utility-customer relationships as customers define what services they prefer to receive from the utility, and what services they wish to acquire in an energy service market. Many energy services are not in direct competition with utility service. Rather, they are complementary services that add value for the consumer through risk management or aggregation.

Examples of energy service options are numerous and varied. In Figure 8, originally developed in 1988, provides a sense of the scope and breadth of energy services that consumers of all sizes might find valuable. The table is for illustrative purposes only. It is not known what specific energy services exist in Alberta or could arise in the future.

The retail energy service market today is complex and diverse. As a competitive retail electricity market evolves, this complexity and diversity will increase. It is not known what types of offerings and services could arise. That's why it's important to give inventive entrepreneurs enough space to experiment. Some rules made sense when utilities were the sole providers of electricity services and regulatory authorities focused on maintaining a fair recovery of revenues to monopoly providers. In today's more dynamic competitive environment, past rules may create barriers to entry.

Consumers are also part of the dynamic. Most consumers will take a wait-and-see approach, while a few pioneers will try out and adapt to new services. Experimentation is a healthy part of creation and innovation in a new competitive market.

Choices for the Future

Retail electricity consumers are demanding more choices in the reliability of electric service, in power quality and in the efficiency of electricity usage. Consumers are not yet articulate enough to state, "I must increase my energy efficiency" or "I want to lower the reliability of service to device A to reduce cost." However, consumers make their voices heard every day as they call for "lower bills" and "better reliability." Giving consumers tools to manage costs will address their needs and make the electric system more efficient.

Most people understand electric reliability as a constant, so they discuss reliability with regard to the most precious end uses—"my computer during work hours" or "lights on a dark night," for example. High reliability is necessary for these end uses.

While system reliability is defined by the utility and regulatory authority, reliability at the end-use level could vary, and with greater knowledge and control, individual consumers could make choices with respect to particular end uses. For example, most consumers could withstand several hours of power outage for an electric water heater with storage capacity. They could withstand several minutes of power outage for a refrigerator. However, they could only withstand a few seconds of power outage for

Figure 9.

Potential Energy Service Options

Facility Operations Management	Product-Related Risk Management	Price-Risk Management	Customer Convenience
Analysis of customer energy use	Interruptible and curtailable rates	Contracted base rates, special terms	Personalized account representatives
Financial incentives for efficiency improvement	Demand subscription services	Fuel repurchase	Access to specialized technical reps.
Leasing end-use equipment	Direct load control	Bypass avoidance rates	Electrical equipment safety check
Appliance sales, maintenance and repair	Backup power subscription	Futures markets	Equipment telephone hotline
Co-generation partnerships	Outage insurance	Economic development rates	Electrician referral service
New building architectural assistance	Dedicated service crews	Priority service pricing	Bill summaries; end-use disaggregation
Industrial process and new technology advice	Guaranteed availability	Sales of end-use service	Prepaid electric service
Power quality and reliability recommendations	Guaranteed quality and performance	Real-time-pricing	Comparative rate option analysis and advice

Source: (Adapted by the Public utility Commission of Texas staff) Barakat and Chamberlin, Inc., *Rate Design: Traditional and Innovative Approaches*, Palo Alto Electric Power Research Institute at 14 - 5 (July 1990). The Cited table originally appeared in Hanser, Phil, W. Smith, and J. Chamberlin, "Integrated Value-Based Planning," *Pacific Coast Electric Proceedings* (March 1988).

a light, and they would have no tolerance at all for power outage for a sensitive electronic device.

Consumers demand high reliability for everything on their premises because the system does not allow different end uses to receive different levels of reliability. Cycling electric water heaters off at high-price periods or during system reliability emergencies could lower the reliability of power delivery to a device without significantly affecting the value of service to the consumer who makes that choice. A lower cost to the consumer would be the reward for increased reliability of service for everyone. For such a model to work, customers would have to be compensated for willingness to reduce their draw on the system.

Reliability is just one attribute of electric service that could be subjected to new market opportunities on customers' premises. Essentially every service, including monopoly service, can be unbundled, and platforms that allow consumers and third-party service providers to participate in a market for these services can be created. Thinking of "competitive electricity markets" as synonymous with "wholesale power transactions" or "retail sale of the commodity" is too limiting. Different end uses can interact with electricity markets in interesting new ways.

Existing wholesale market participants may not be adept at providing retail energy services. They may resist change because they recognize that these services are a substitute for traditional services. Many services provided in wholesale power markets today are overpriced because there is insufficient interaction between demand and supply. Creating new market platforms for the interaction of demand and supply will create more competition for energy production, capacity (during emergencies), ancillary services, reliability of delivery and risk management.

The regulation of vertically integrated electric utilities worked reasonably well during a significant portion of the 20th century. However, the traditional assumptions and policies are inconsistent with the emerging service-oriented, customer-driven, energy service market. Feedback, in the form of price-demand response, would make utilities responsive to customer needs and market pressures, and would lead to more efficient resource allocation. Consumers do not necessarily have a universal desire for distant power plants or for wires that transmit power. Improved pricing would allow price signals and the discipline of markets to control the behaviour of all stakeholders.

Emerging Services and Technologies

The promise of vibrant competitive markets is "better services at lower cost."

Better services and lower costs can occur as new products and services are developed to meet consumers' needs. In the electricity industry, policy-makers expect that emerging services and new technologies will drive down costs as people use the electric commodity more efficiently. But economic efficiency is much broader than energy efficiency. It refers to a better matching of consumer preferences to resources.

Policy-makers also expect that wholesale power markets will become more robust and competitive as consumers are given opportunities to interact with them more directly. During peak periods, for example, demand response can compete with peaking power plants during the few hours when power plant capacity is in short supply and power prices are very high.

Enhanced customer choice is an important public policy goal apart from any economic benefits and innovations associated with it. Unbundling permits consumers to choose and pay for the services they want, and it allows them to use services that appeal to them and that offered by other supplies. Unbundling gives the power of information and choice to consumers. It leads to more efficient consumption decisions and more efficient resource choice decisions by those who serve consumers.

The process of seeking more efficient solutions requires risk taking, and can occur as part of any market transformation. Risk taking is the key to achieving innovation.

New technologies and new institutional arrangements may lead to new services consumers prefer. Since individual preferences vary, this means some consumers will demand premium-level services, while others will demand basic or low-cost services. This creates inherent efficiencies: diversity in the demand for a product, and complementarities in its use, which can lower costs for everyone. As in other industries, no one can predict who will demand which services, or what technologies will arise to provide new services.

Innovation is the application of new ideas and methods. An entrepreneur can improve the customer experience by applying existing technologies in new and interesting ways. On the customer or demand side of the electricity industry, innovation and entrepreneurship are relatively new concepts, and would represent a significant change. Nonetheless, innovation is the key to achieving "better service at lower cost."

When people think of innovations, new products—such as Apple's iPhone—often come to mind. But innovation is not a purely technological phenomenon. In the residential sector of the electricity industry, the need for basic improvements in pricing and information is so great that many new products may not seem particularly innovative. Common sense reforms can address some long-unmet needs. Basic technologies and existing services can be applied in new ways and with new-found freedom, but even common sense changes require risk taking and innovation. Consumers and energy service providers must take this path together. Entrepreneurs cannot get too far ahead of the ability of consumers to adapt and change.

Dramatic innovations with truly innovative techniques are also possible. Innovation has plateaus and some steep advances, and tracking progress may be difficult.

What innovations are likely to occur in the Alberta residential sector? The sky is the limit.

It is important to understand that innovation in energy services has already begun. Restructuring is an innovation made possible by changes in Alberta's *Electric Utility Act*. For one segment of residential consumers, understanding that the ability to buy power from someone other than the incumbent utility is a very valuable change. Some customers would readily pay a premium for that right. Furthermore, the residential electricity market in Alberta has developed a range of consumer options, including weekly billing, paperless accounts, dual fuel contracts and the ability to enter into contracts over the phone or the Internet. Other innovations will be possible when customers have access to new technologies.

Experts on innovations in the residential sector may refer to "smart homes," "interactive technologies," "in-home devices" or the "home automation network." Some of these terms may become relevant in Alberta, and some may not. First, it is necessary to understand that innovation occurs by pulling existing resources together in new ways that better satisfy consumer needs and preferences. Albertans will make choices about what is desired. In the past, the focus was on an electric infrastructure that resulted in "reliable, low-cost power." Today, the needs are greater, and the infrastructure may become more complex.

Tomorrow's electric service innovations will leverage public and private infrastructure investments. These include smart meters, usage data portals that enable new offerings, transmission investments to facilitate green power development and advanced telecommunications to help consumers engage with retail energy suppliers and local distribution utilities. Telecommunications in particular will provide new channels for information, control and transactions. No one set of infrastructure investments is required, and not all infrastructure must be provided by the government.

The commercial and industrial energy services market in Alberta is robust, and many innovative products and services have already been developed to address the needs of large consumers. Most large commercial and industrial consumers are highly satisfied with retail choice because they have been able to innovate. Energy price risk management remains extremely important to nearly all commercial and industrial consumers, and retail energy suppliers offer a variety of options to satisfy these varied consumer preferences. Commercial and industrial consumers also have access to a range of on-site services, such as energy services performance contracting, on-site generation and construction services. Each of these services is bundled with the electric commodity to meet the specific consumer needs.

The issue now is whether retail energy suppliers and energy service companies can create a mix of service and commodity that appeals to, and meets the needs of, the residential consumer. The number of suppliers, the range of available products, and the number of unique products and services found in competitive electricity markets are good measures of the current state of innovation. In Alberta, there are a dozen retailers with around 50 unique offerings. There are a few basic products: flow-through of pool prices, fixed-price products, green products and products that bundle electricity with natural gas. In Texas, about 35 suppliers offer 249 products on a state-sponsored shopping website, and other choices on their own websites. In New York, product differentiation is beginning to take off. Between 2010 and 2011, the number of different offerings was up 40%. Consumers could select month-to-month pricing, fixed pricing over periods of two to 60 months, green content of 25%, 50% or 100%, and discount guarantees off the default service pricing option.

In Texas, prepaid electricity service offerings have entered the market, with nine companies offering prepaid products. With the use of advanced meter infrastructure and mobile communications, more energy suppliers are developing prepaid offerings. According to consumer surveys, customers like prepaid options. And the growth in prepaid products confirms the notion that certain aspects of innovation can occur in both the competitive and regulated portions of the electricity industry.

Figure 10.

What's new in residential consumer innovation?

- Spark Energy offers a **mobile Web site** and app that provides enrollment information, tools to manage energy use, and the ability for Texas customers to pay bills
- Direct Energy offers **Power-To-Go℠** prepaid electricity to residential Texans with a new payment channel, pay as you wish, and daily text updates
- Direct Energy offers **Comfort Club™** to residential Pennsylvanians to bundle electricity with heating and air conditioning tune ups and safety checks
- Direct Energy offers a **Free Saturdays™** to some residential customers in Pennsylvania
  "I see real value here, and I love the idea that savings are up to me. I used to do all of my laundry on Sunday, but that is about to change." Gail Mohonay, first residential consumer in Pennsylvania to sign up for the product offering
- Green Mountain offers a **Renewable Rewards® Buy-Back Program:** qualifying renewable energy generation facilities receive credit for excess energy
- Green Mountain offers a 100% wind electricity plan exclusively for electric vehicle drivers **(special rate on pollution-free power for car and home)**
- TXU Energy offers a residential **Solar Leasing Program** that includes full service system design, financing, equipment, installation, insurance, monitoring, warranty and guaranteed solar power production
- TXU Energy offers **MyEnergy Dashboard℠** an online tool that helps residential consumers examine how and when they use electricity and how to reduce energy consumption

Source: Adapted from Distributed Energy Financial Group. *Annual Baseline Assessment of Choice in Canada and the United States (ABACCUS): An Assessment of Restructured Electricity Markets - Executive Summary*, 2011.

Innovation on or near the residential consumer premises is driven by the following factors:

- high energy prices
- reliability concerns
- access to new providers
    - direct retail access
    - unbundling of monopoly services
    - regulatory reforms to reduce barriers to entry
- investments in infrastructure that facilitate innovation
    - smart grid, including advanced meters
    - transmission and distribution capabilities for power and ancillary service transactions
- increased stakeholder focus on consumer needs
    - green prices
    - new bill payment methods
    - enhanced services and consumer-defined convenience
    - energy-management analytics and additional information on usage
- integration of other industries (natural gas, security systems, communications, cable) with electricity

People who view the electricity industry purely in commodity terms will expect that opportunities for innovation will be purely on the supply side of the electricity meter. The fact is electricity has been sold as a commodity for more than a century, and many great minds have created significant innovations in the production of power and the delivery of electricity. Today, the situation is changing. Infrastructure advances and the electricity service market are becoming more competitive. Consumers have choices, and service providers must compete to acquire and maintain customers. Even the customers of monopoly utilities have service choices on their premises—solar panels on the roof, more efficient appliances to reduce energy use, new gadgets to monitor usage and discounts for peak reductions. Even monopoly utilities are exploring electricity service value. Utilities and competitive suppliers alike are discovering that most of the potential for innovation is on the customer side of the meter.

Although innovation requires risk taking, it may also lead to new sources of revenue. Consumers with choices often find value in a new service where they previously only received a commodity. Policy-makers must see that a rapid transformation of the electricity industry is occurring. The industry is moving from a focus on bulk power production and delivery (the electric commodity) to new energy services that precisely target and satisfy previously unserved or underserved needs and preferences.

Innovation requires entrepreneurship, risk taking and opportunities for rewards.

A new outlook may reveal barriers to change caused by existing laws, and policy-makers may identify areas for reform. Legislators and regulators may see fit to tighten certain rules and relax others to facilitate innovation and entrepreneurship.

Making the effort is worthwhile.

Chapter
4
Electricity Rates and Prices

In this chapter, "electricity rates" are the prices that retail electricity customers pay for the power they use and for the additional services involved in delivering that power to their homes, farms or businesses.

Retail electricity providers buy electricity on behalf of their customers, and produce customer bills based on meter readings and on their agreement with the customer. Meter readings show the amount of electricity a customer used in a particular month. Meter information is collected by electricity distribution companies, which invoice retailers for their customers' related transmission and distribution costs, and provide the AESO with information needed for it to invoice retailers for their customers energy usage. Retailers recover electricity costs and the costs of transmission and distribution from their customers. These costs are itemized on each customer's monthly power bill. Retailers also bill their customers for the services they provide, including the cost of buying energy on their behalf, producing the customer's bill and providing customer service. These charges appear as administration charges on the customer's monthly bill.

For details about metering and load settlement (the assignment of electricity usage charges to a customer), see p. 66 and p. 67.

The Components of a Customer's Bill

Customers' power bills are generated by their retail electricity providers[1] based on inputs from a number of sources.

A typical bill includes a number of components, which can be classified as energy and non-energy charges.

Energy charges

- the cost of energy used during the billing period

Non-energy charges

- energy delivery charges, including the cost of transmission and distribution
- administration fees
- local access fees
- adjustments, including rate riders and balancing pool credits or debits

The energy charges on a customer bill relate to the electricity that people consume. Consumers buy their energy from retail electricity providers, who are free to purchase that energy any way they see fit, or from default providers, who are mandated by government to follow specific procedures in how they purchase energy."

The energy delivery charges on a customer bill relate to the delivery of electricity to people's homes and businesses. Delivery services are provided by regulated transmission and by the distribution system owners who are responsible for serving customers in specific regions of the province. Energy is delivered by the same designated distributor, in the same way, no matter what retail electricity provider a customer has chosen.

REGULATORY REQUIREMENTS

Two regulations stipulate the types of charges that must be included on a customer's electricity bill. All retail electricity providers are governed by the requirements of the Billing Regulation of the *Electric Utilities Act*. Regulated rate providers must also comply with the requirements of the *Regulated Rate Option Regulation*.[2]

As required by regulation, all retail electricity providers and regulated rate providers use a common, standardized breakdown of charges on their customers' electricity bills. Within this standardized breakdown, however, different providers may group the various bill components in different ways. For example, Enmax includes transmission, distribution, rate riders and balancing pool allocations as "delivery charges," but breaks out local access fees. Direct Energy includes local access fees as part of a "distributor charge" that also includes transmission, distribution and rate riders.[3]

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[1] As discussed in previous chapters, customers who have not selected a retail electricity provider purchase electricity from their distribution system owner and pay a default rate. In this situation, the distribution system owner is the customer's de facto retailer and therefore responsible for customer billing. For customers on the default rate, distribution system owners carry out the billing function directly or through affiliated retailers.

[2] The billing requirements set out in the Billing Regulation are comparable to the requirements in the *Regulated Rate Option Regulation*. The main difference relates to energy delivery charges. The Billing Regulation specifies that a customer's bill must list the distribution tariff; the RRO Regulation provides the option of listing the distribution tariff (that is, the "distribution charge and transmission charge") or listing fixed and variable delivery charges. Distribution utilities that provide the RRO "have chosen to present the delivery charge as separate distribution and transmission components, and bill customers these charges based on consumption" (AUC 2012a, p. 6).

[3] Sample bills from Enmax, Epcor and Direct Energy are included in the appendix of the Alberta Utilities Commission's April 2012 presentation to the Retail Market Review Committee.

Energy Charges

Electricity customers are billed for the cost of the energy they have used during a billing period. Three factors determine the energy charges on customers' bills:

- the total amount of electricity they have used, as recorded by their power meter
- the per-kilowatt-hour rate charged by the customer's default electricity provider or established in the customer's retail service agreement
  - For customers who buy electricity from a default provider, the energy charge is based on the procurement of energy according to an energy price-setting plan that is approved by the Alberta Utilities Commission. The rate changes from month to month, depending on market conditions.
  - For customers who buy electricity from a retail electricity provider, the rate is determined by their service agreement. Depending on the terms of the agreement, the rate may vary from month to month, or it may be fixed for a predetermined period.
- the load profile used to allocate energy consumption

Province wide, energy charges constitute approximately 60% of a residential customer's monthly power bill (AESO 2012a). As shown in the following figures, energy charges for customers who buy power at the regulated rate constitute between 45% and 66% of their monthly bill, depending on their service areas.[4]

Figures 11 through 14 present bill components by service area for typical residential customers who consume 600 kilowatt hours of electricity per month and who pay the regulated default rate for their power. Figure 15 shows the average monthly cost of electricity for this consumer group between 2004 and 2012.

On average, Albertans who pay the RRO rate in urban areas pay 8.1 cents per kilowatt hour of electricity; Albertans who pay the RRO rate in rural parts of the province pay 8.4 cents per kWh kilowatt hour (DOE 2012e).

Higher bills in the Atco service area are mainly driven by higher distribution charges, which are the result of serving mostly rural areas with low population densities. Enmax sets its local access fee as a fixed percent (11.11%) of the sum of distribution, transmission and energy charges. Variations in the wholesale price of electricity therefore drive changes in the local access fee that is included in "other service area fees."

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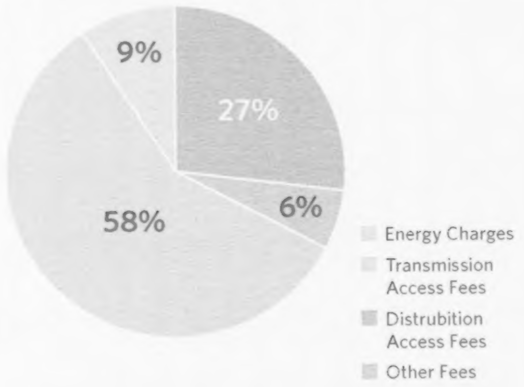
[4] Regional difference are the result of differences in population density. In Atco's northern Alberta service area, for example, low customer density means that distribution costs constitute a greater proportion of the bill than in densely populated urban areas such as the Edmonton and Calgary regions served by Epcor and Enmax.

Figure 11.

The components of a residential RRO customer's average monthly bill in the **FortisAlberta** service area, 2011

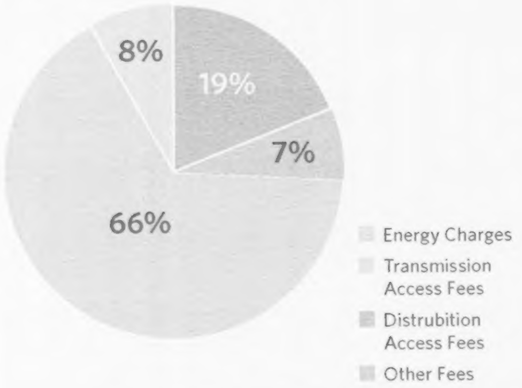


*Combined monthly average for the Year 2011

Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy

Figure 12.

The components of a residential RRO customer's average monthly bill in the **Epcor** service area, 2011

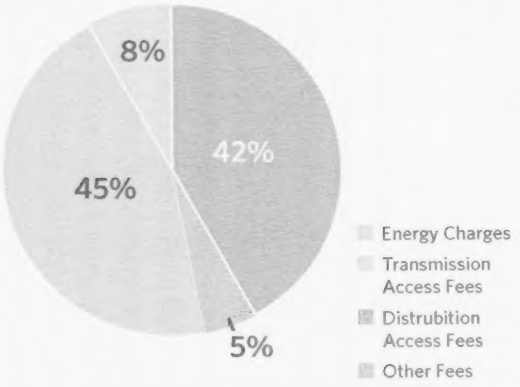


*Combined monthly average for the Year 2011

Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy

Figure 13.

The components of a residential RRO customer's average monthly bill in the **Atco** service area 2011

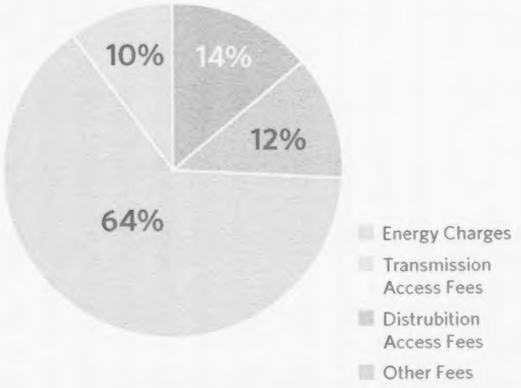


*Combined monthly average for the Year 2011

Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy

Figure 14.

The components of a residential RRO customer's average monthly bill in the **Enmax** service area, 2011

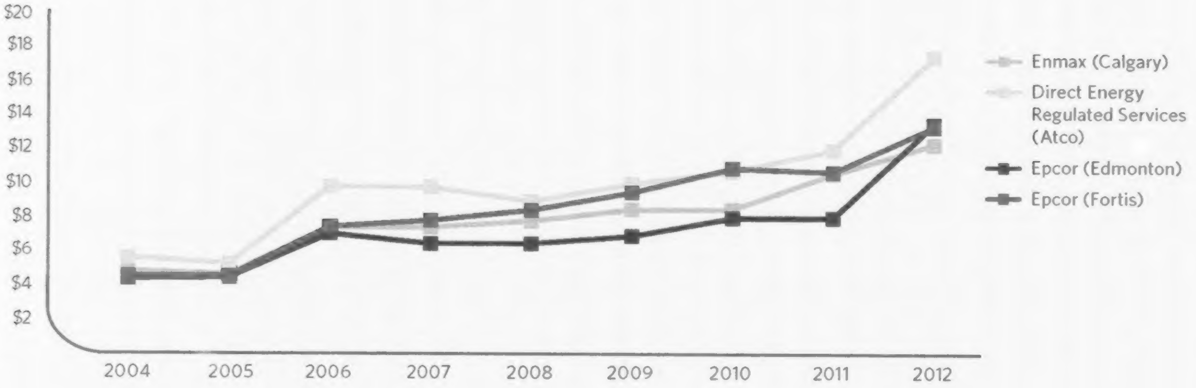


*Combined monthly average for the Year 2011

Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy

Figure 15.

Average monthly power bill charges for residential RRO customers, by service area, 2004 to 2012



Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy.

Energy Delivery Charges

Energy delivery charges include two components: transmission and distribution. Both components are rolled up into the distribution tariff passed on to the retailer.

Transmission charges cover the cost of moving electric energy from generating facilities through high-voltage transmission lines to distribution utility substation transformers, where it can be stepped down to usable levels. They also cover capital costs and the costs of operating and maintaining the provincial transmission system (AESO 2009b). The transmission charge on an electricity bill is based on how much electricity the customer has used (AESO 2012d).

Transmission rates are approved and regulated by the Alberta Utilities Commission.

Distribution charges cover the cost of moving electric energy from high-voltage substation transformers through local, lower-voltage lines that carry electricity to the customers' meters. They also cover the cost of operating and maintaining local distribution systems, building new services, connecting and disconnecting customers, responding to power outages, maintaining customer information systems and providing meter-reading services.

Distribution rates utilities are approved by the appropriate regulator. The Alberta Utilities Commission regulates distribution rates for Calgary (Enmax) and Edmonton (Epcor) and for Fortis Alberta and Atco Electric. Distribution rates for Red Deer, Lethbriodge, Cardston, Fort Macleod, Ponoka and Crowsnest Pass are approved by local municipal governments and town councils. Rural electrification associations have boards of directors that approve distribution rates on behalf of association members (AUC 2011a).

Transmission

Transmission facility owners' tariffs

All access to Alberta's electricity transmission system is controlled by the Alberta Electric System Operator (AESO). The AESO contracts with all transmission facility owners to acquire access to their transmission systems. The cost of this service is approved by the Alberta Utilities Commission and paid by the AESO.

Transmission facility owners file applications for the AUC to approve their transmission tariffs and the terms and conditions governing the use of their facilities (AUC 2012a). Once a tariff is approved, the AESO pays the transmission facility owner in equal monthly installments without regard to the volume of energy moving through the owner's facilities.

The AESO tariff

The Alberta Electric System Operator designs a single provincial tariff to recover the costs it incurs in planning, maintaining and operating Alberta's electricity transmission system. The provincial tariff covers the AESO's payments to transmission facility owners, costs associated with transmission losses, system support services (such as operating reserves) and administrative costs. The AESO tariff is reviewed and approved by the Alberta Utilities Commission in an open public proceeding.

The AESO tariff sets a "postage stamp" rate for transmission services. The tariff is charged to distribution system owners and other parties on the basis of their metered or contracted usage of the province's transmission facilities. Distribution utilities roll their transmission charges into their own tariff, and recover these costs from retailers.[5]

Retailers in turn recover their transmission and distribution costs from their customers.

Generators pay for system losses and interconnection costs, but are not charged the transmission tariff.

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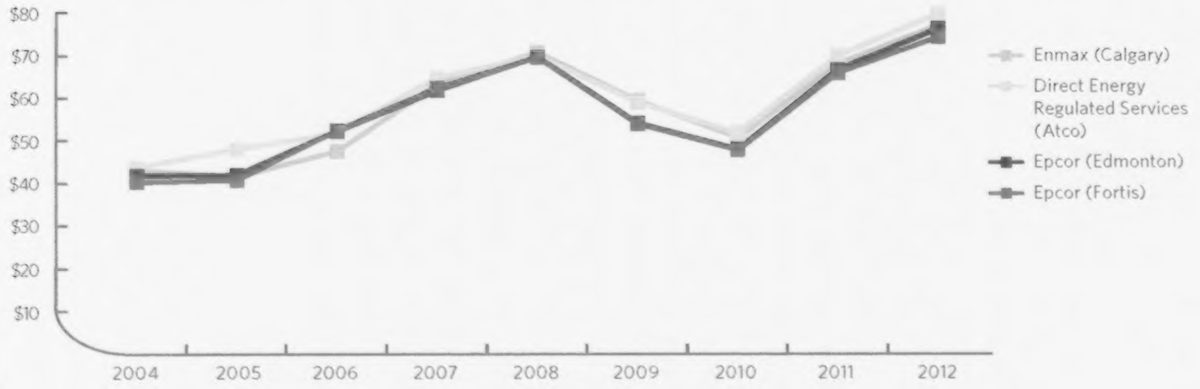
[5] Although there is a single transmission rate for all of the province, distribution system owners must transform the provincial rate into per-kilowatt-hour energy charges and per-day fixed charges. Different distribution facilities make these allocations in different ways. As a result, the transmission prices that retail customers see on their bills can look quite different from the transmission charges the AESO allocates to distributors (DOE 2012f).

Figure 16.

Average monthly transmission charges for residential RRO customers, by service area, 2004 to 2012



Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy.

Riders and deferral accounts

Some components of the AESO tariff remain fairly stable from month-to-month. Other components, such as charges for operating reserves, change as market conditions change, and cannot be predicted in advance. The result is that, in some months, revenues collected through its tariff may be higher than what the AESO needs to cover its costs. In other months, revenues may be too low to cover costs.

When the AESO tariff is approved by the Alberta Utilities Commission, the costs of items that are difficult to forecast or are highly volatile in price are approved in principle, subject to future AUC review (AUC 2008).

In order to accommodate variances between costs and revenues the AESO maintains deferral accounts that are balanced and submitted for Alberta Utilities Commission approval at the end of each year. Deferral account shortfalls and surpluses are charged or refunded to AESO tariff payers in the form of a rider that is adjusted each quarter to keep the account balance close to zero (AESO 2012a).

Figure 16 shows average monthly energy transmission costs, by service area, for typical residential customers who consume 600 kilowatt hours of electricity per month and who pay the regulated default rate for their power. As shown in Figures 11 to 14, the 2011 transmission charges paid by customers in this category ranged from $7.93 (in Epcor's service area) to $11.91 (in Atco's service area), and constituted between 8% and 10% of the customers' total bill.

Distribution

The AESO tariff—a standard, Alberta-wide transmission rate—is used to calculate the transmission charges that distribution utilities must pay for their use of the provincial transmission system.

The AESO tariff is applied to energy at the point of delivery between the high-voltage transmission system and the low-voltage distribution system. "It has a number of individual charge components, some based on energy usage and some based on the peak or contracted demand at that Point of Delivery."

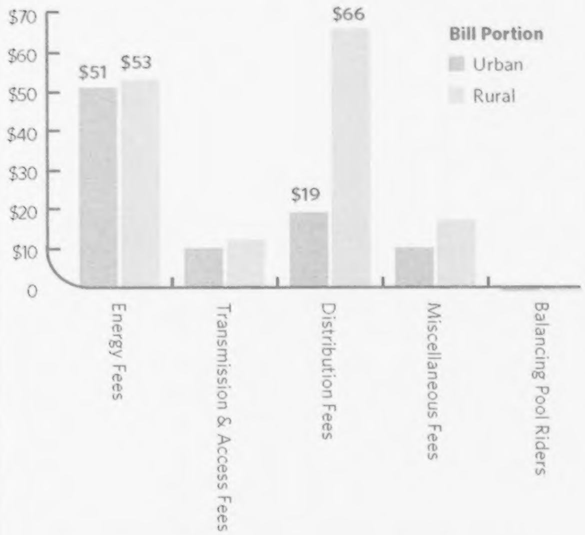
Distribution utilities use the AESO tariff to develop a distribution rate that recovers their transmission charges and other costs associated with delivering energy to consumers. The distribution rate they pass on to retail electricity providers is approved by their relevant regulatory authority.

Distribution costs vary with location and consumption. Albertans in rural Alberta pay more for distribution than urban Albertans because of the low population density and longer distances between customer sites. Distribution costs constitute 46% of the bill for a rural consumer, and 21% for an urban Albertan (as shown in Figure 17).

On average, Albertans in rural areas of northern Alberta pay considerably more for electricity delivery than Albertans in the rural south ($83.55 per month, compared to $42.74 in the south) (AUC 2012a).

Figure 17

A comparison of electricity costs in rural and urban Alberta, 2012



* Based on Monthly Use of 600 kilowatt hour at 8.1 cents/kWh for Urban and 8.4 Cents/kWh for Rural

Source: Alberta Department of Energy, "Presentation to the Retail Market Review Committee", 2012e

HOW THE AUC SETS DISTRIBUTION RATES

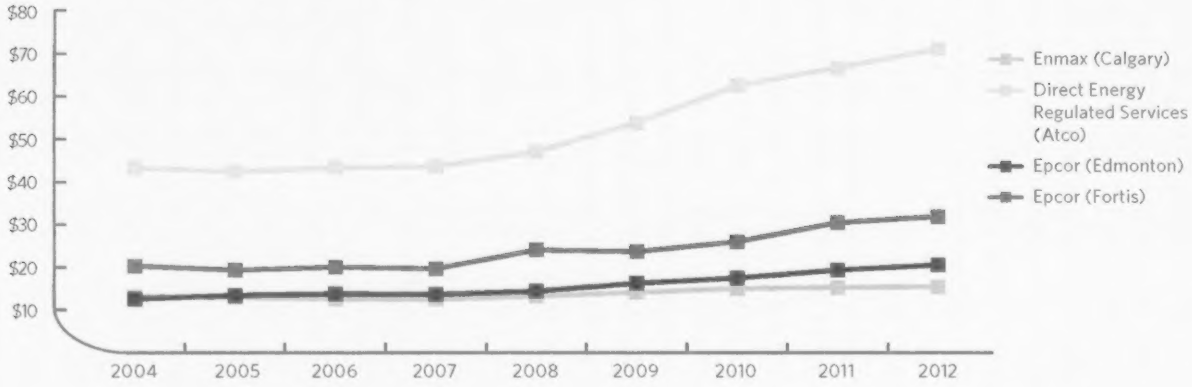
The Alberta Utilities Commission uses a two-phase process to set distribution rates. In the first phase, the commission uses forecasts provided by the distribution utility to estimate the total cost of providing service in the next few years. In the second phase, the estimated total costs are allocated to customers according to the principles of cost causation. Cost causation is the principle that the entities that create the need for an expense should pay for that expense.

The traditional cost allocation process is undergoing substantial change as Alberta utility companies implement computer systems that automatically trace the millions of distribution system assets in service to their actual individual users.

Customers often wonder why their distribution charges increase every year when the poles and wires that provide service have stayed unchanged for many years. The reason is simple: customers with existing, unchanging assets are sharing the costs of customers who are receiving new, more expensive assets.

Figure 18.

Average monthly distribution charges for residential RRO customers, by service area, 2004 to 2012



Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy.

Figure 18 shows average monthly energy distribution costs, by service area, for typical residential customers who consume 600 kilowatt hours of electricity per month and who pay the regulated default rate for their power. As shown in Figures 11 to 14, the 2011 distribution charges paid by customers in this category ranged from $15.17 (in the Enmax service area) to $66.67 (in Atco's service area), and constituted between 14% and 42% of the customers' total bill.

The transformation of the provincial transmission tariff into local distribution rates creates complexity in the billing system, raising costs for customers and barriers for retail market entrants. The issue merits further policy consideration.

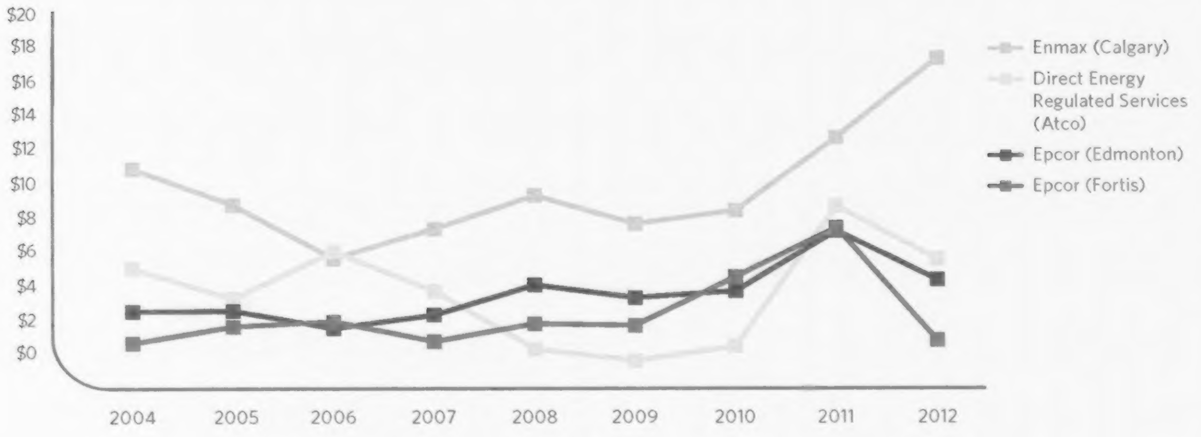
VARIATIONS ON A THEME

Some electricity providers use the term "distributor charges" or other name variations to refer to energy delivery charges. Depending on the retailer, customer bills may list rate riders, local access fees, balancing pool allocations or other fees under the heading of energy delivery or distributor charges.

Figure 19.

Annual Average Other Service Fees

Other Service Area Fees: Annual Average Charge ($/month)



Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy.

Administration Charges

Retailers must maintain customer records and accounts, prepare and issue bills, collect payments, and respond to customer inquiries and complaints. The cost of providing these services may in part be recovered from customers through the retailer's administration charges.

Administration charges appear on the customer's bill as a daily or a monthly charge (AUC 2012a).

Figure 19 shows average monthly administration charges, by service area, for typical residential customers who consume 600 kilowatt hours of electricity per month and who pay the regulated default rate for their power. As shown in Figures 11 to 14, the monthly service charges paid by customers in this category in 2011 ranged from $7.09 (in the Epcor service area) to $12.56 (in the Enmax service area), and constituted between 5% (Atco) and 12% (Enmax) of the customers' total bill.

Local Access Fees

Local governments provide distribution utilities with access to public roads and other rights-of-way for the placement of their equipment. In return for this access, they charge the utility a local access fee.

Local access fees are a surcharge that municipalities levy on distribution system owners. Retailers collect these fees from customers and reimburse distribution system owners, who then pay the local authority.

A local authority can be a municipality, county, municipal district or First Nation.

Local access fees are authorized under the *Municipal Government Act* and are not regulated by the Alberta Utilities Commission.

Other Charges

Rate Riders

Rate riders are temporary charges or refunds that apply when the actual costs incurred by a regulated transmission or distribution utility differ from rates that were approved based on cost forecasts (AESO 2009b).

Rate riders must be approved by the appropriate regulatory authority.

Rate riders are designed to collect or reimburse a specific amount over a period of time. Customers see them as credits or debits on their monthly bills.

Today, rate riders relate to transmission and distribution costs. Rate riders on energy costs are no longer allowed.

Balancing pool allocations

The balancing pool allocation rider is value owed to consumers from the regulated generating assets covered by Power Purchase Agreements (for details, see the 1998 entry in the timeline in Appendix 2). Customers benefit by receiving this allocation, but remain responsible for any outstanding risks associated with these generating plants.

For convenience, balancing pool allocations are flowed through to consumers as part of the provincial transmission tariff.

TRANSMISSION AND DISTRIBUTION RATE RIDERS

Transmission charges for services such as operating reserve will change as market conditions change, and cannot be predicted in advance.

The regulatory process ensures that customer rates are just, fair and reasonable. But the process takes time, and in a dynamic marketplace, prices change quickly. To accommodate the process and the realities of the marketplace, interim rates are sometimes put in place until a final rate can be set. If the final rate is different from the interim one, components that have changed are presented to customers in the form of separate rate riders. Separating out each rider (rather than simply changing the basic rate) makes it possible for customers to see all the components that constitute their rate.

Entry and Exit Charges

Retail electricity providers have the right to charge contract exit fees. These fees allow the provider to recover the cost of purchasing electricity on behalf of customers who choose to switch to another provider. These charges would be contained in the retail contract that the customer signs and agrees to. Currently most retailers have no exit fees but do require a notice period for exit.

Rates Charged by Retail Energy Providers

Rate Options

There are three broad categories of competitive energy rates in the market at present—variable, mirrored and fixed.

Variable rates provide a flow-through of the Alberta pool price of power, which changes hourly and can range from $0 to $999.99 in the space of a few hours. This rate option exposes consumers to considerable price volatility over the course of the month, as pool prices fluctuate up and down. In addition, consumers have no way of knowing the price of the power they are using until after the fact, when they receive their monthly bill. However, because variable rate pricing does not create volume risk or price risk, in the long term it will always cost less than a fixed price product since it contains no costly price insurance.

Fixed rates remain the same for an agreed-upon period of time. Current fixed-rate options available in the competitive market are for one-, three- or five-year terms.

Rates Charged by Regulated Rate Option Providers

How the RRO Rate Is Determined

Distribution system owners are responsible for providing a default rate—the Regulated Rate Option, or RRO—to customers in their service areas who have not selected a competitive retail electricity provider. The design of the Regulated Rate Option and the costs it can include are specified in legislation and approved by the appropriate regulator.

The Alberta Utilities Commission (AUC) approves the RRO rate offered in the Epcor, Enmax, Atco and FortisAlberta service areas. Regulatory approval relates to costs that can be passed on to customers. These costs cover the cost of energy and the cost of providing default service, including reasonable, "prudently incurred" costs for service delivery, billing costs, risk premiums and a fair profit margin.

For each distribution system owner, the AUC approves an energy price-setting plan (EPSP) that sets out how energy will be procured for customers and how the RRO rate paid by customers will be calculated. The AUC also approves each distribution system owner's proposed terms and conditions of service, and the manner in which information about electricity charges, transmission and distribution charges, administrative charges and local access fees will be shown on customer bills. Bidding and procurement mechanisms, procurement costs, administrative costs, risk premiums and compensation amounts are established through negotiations with customer representatives (such as the Utilities Consumer Advocate) and included in the approved rate (AUC 2012a).

RRO providers set their monthly RRO rate using month-forward electricity prices "established in the period beginning on the 45th day preceding the consumption month and ending on the fifth business day preceding the consumption month" (AUC 2012a, p. 13). Using the procurement mechanism specified in their energy price-setting plans, RRO providers purchase the electricity they need to supply their customers within the time frame stipulated in the *Regulated Rate Option Regulation*.

Because of these procurement timing requirements, the RRO rate is established in advance of the consumption period. This exposes the RRO provider to the risk that forward prices and forecast volumes will be different from the actual pool prices and actual consumption volumes. RRO providers are compensated for this risk through risk margins included their approved RRO rate. True-up accounts to absorb the variances are not permitted.

An RRO provider's risk margin covers the following approved adders:

- estimated volume risk, including the risk of customer attrition and forecasts
- estimated price and credit risk
- forecast electric distribution system losses
- estimated risk related to volume variances (unaccounted-for energy) in load settlement calculations

How Energy Is Procured

The Alberta Utilities Commission has approved two different procurement mechanisms for the RRO (UCA 2012e).

Epcor uses an **auction process** in which certain volumes of energy are purchased at an auction held on a certain day within the 45-day period preceding the consumption month.

Direct Energy and ENMAX use a **bid process** in which energy is procured on a daily basis according to procurement parameters established by an independent advisor.

Epcor provides the RRO in its own Edmonton-region service area. It is also the designated RRO provider for FortisAlberra.

Enmax provides the RRO in its Calgary service area and in five other municipalities.

Direct Energy is the designated RRO provider for Atco.

The Retail Market Review Committee addresses the appropriateness of retaining two separate procurement processes and restricting procurement to a 45 day window in its recommendations.

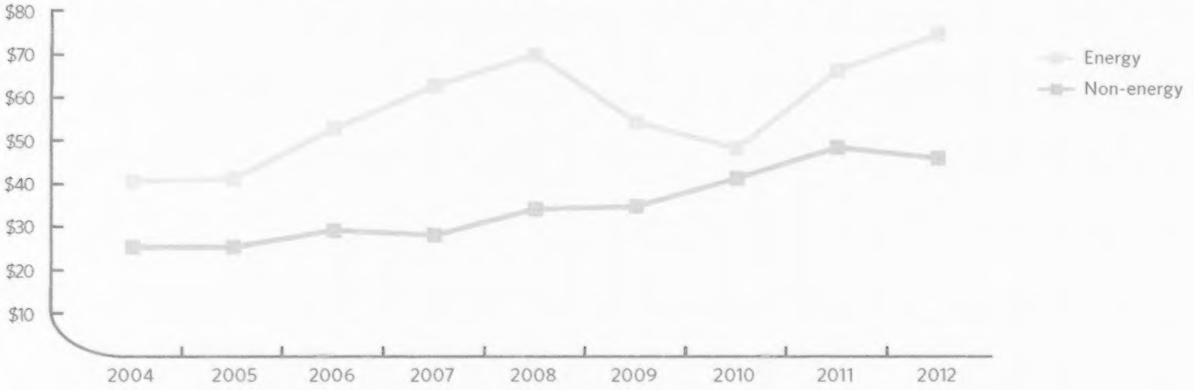
Non-Energy Charges

The RRO rate includes a number of non-energy charges, include operating costs, corporate service costs, capital asset and return costs, tax, depreciation and deferral accounts (on non-energy amounts). Operating costs include management costs and the cost of providing customer services such as billing, bill collection, customer information and call centres.

Figures 20 through 23 show the average monthly energy and non-energy costs, by service area, for typical residential customers who consume 600 kilowatt hours of electricity per month and who pay the regulated default rate for their power.

Figure 20.

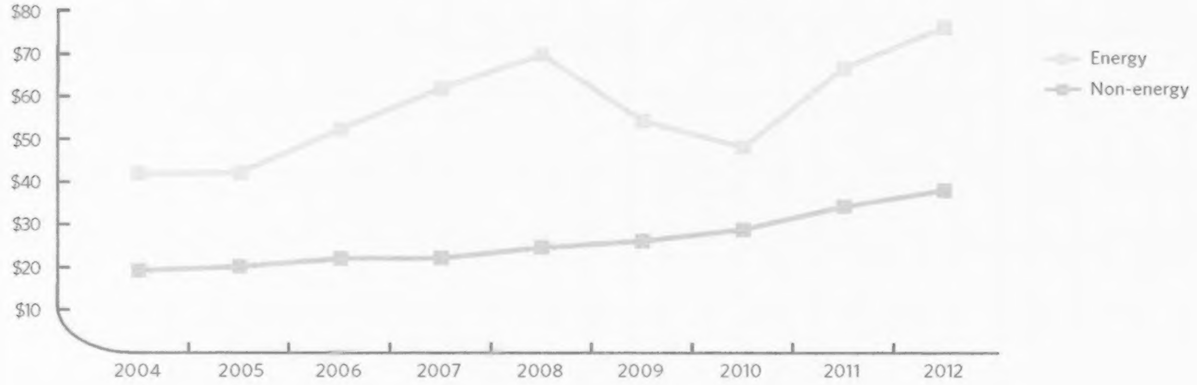
Energy and non-energy components of a residential RRO customer's average monthly bill in the FortisAlberta service territory, 2004 to 2012



Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy

Figure 21.

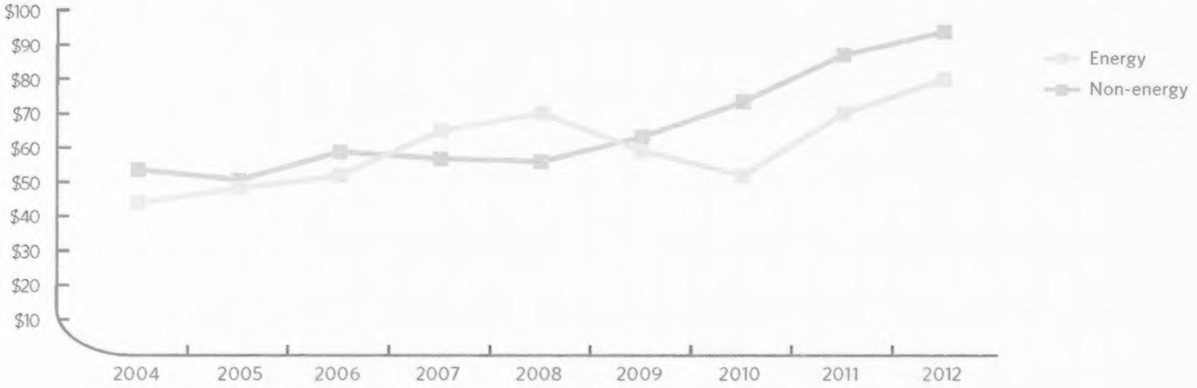
Energy and non-energy components of a residential RRO customer's average monthly bill in the Epcor service territory, 2004 to 2012



Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy

Figure 22.

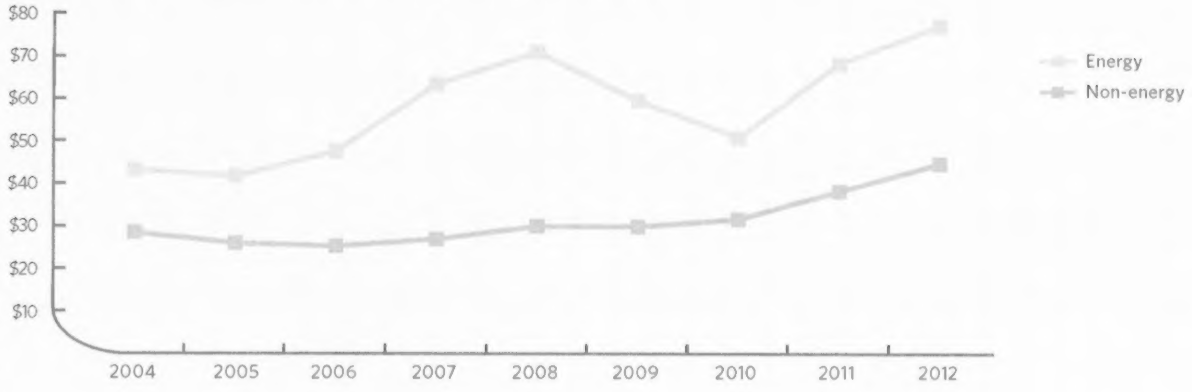
Energy and non-energy components of a residential RRO customer's average monthly bill in the Atco service territory service territory, 2004 to 2012



Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy

Figure 23.

Energy and non-energy components of a residential RRO customer's average monthly bill in the Enmax service territory, 2004 to 2012



Source: Compiled by the Retail Market Review Committee based on data provided by the Alberta Department of Energy

Rate Volatility Over Time

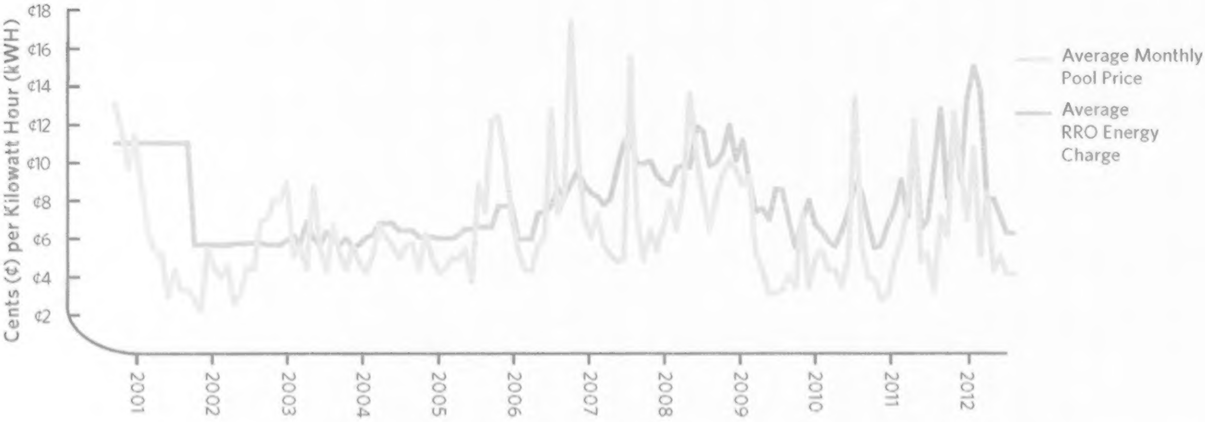
RRO Volatility

A number of factors determine the RRO price in any given month. The non-energy component of the RRO is approved by the regulator and charged to the customer. The energy component of the RRO depends on the forward market prices for the given month, which are driven by the expected level and volatility of on- and off-peak wholesale prices for the next month.

Figure 24 shows the average RRO energy charge and the average monthly pool price over the past 12 years.[6] It is clear that over the past five years, RRO prices have become more variable from month to month. Some of this increase in variability is expected: the transition to the "new RRO"—which introduced one-month-forward pricing in 20% annual increments—was intended to design a rate that varied to reflect changes in monthly pool prices. However, the RRO is not only more variable, it is increasingly divergent from the monthly pool price.

Figure 24.

RRO energy charges compared to average monthly pool prices, 2001 to 2012



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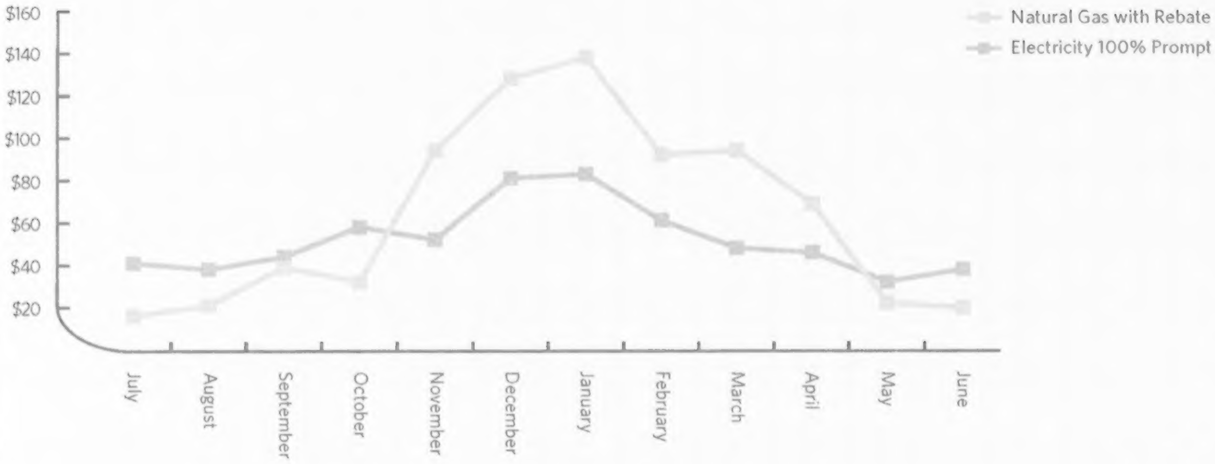
[6] The average RRO energy charge was derived by averaging RRO providers' monthly energy charges. These energy charges are highly correlated, so averaging does not mask any significant differences.

Figure 25.

Monthly changes in natural gas and RRO bills



Source: The Market Surveillance Administrator 2009

VOLATILITY IS IN THE EYE OF THE BEHOLDER

Oddly, consumers seem to be less disturbed about variability in monthly natural gas bills than in power bills. Natural gas rates are determined in much the same way as RRO energy rates, with most natural gas bought one or two months ahead.[7] In 2009, the Market Surveillance Administrator reviewed Alberta's residential natural gas and electricity markets. The MSA found that natural gas bills were much more variable over the course of the year than monthly energy charges in the RRO. (See Figure 25.)

On a monthly basis, the RRO is often lower or higher than the average pool price. On average, the RRO has been higher than the pool price for the last five years. Figure 26 shows the average annual difference between RRO energy charges and monthly pool prices. (The average annual difference was determined by averaging the monthly differences). In the first six months of 2012, the difference is almost 5 cents per kilowatt hour, which translates to about $30 a month for the average household using 600 kilowatt hours of electricity per month.

Some volatility in the RRO is due to basic and predictable changes in supply and demand throughout the year. That kind of supply- and demand-related volatility is easily handled by forward markets, and translated into appropriate risk premiums. But some sources of wholesale price volatility are not as easily handled or predicted. Unpredictable wholesale price volatility has led to increased uncertainty and higher risk premiums in the forward market. Monthly RRO prices now reflect that uncertainty as well as normal volatility, and higher risk premiums mean that the RRO bears less relation to the actual cost of energy.

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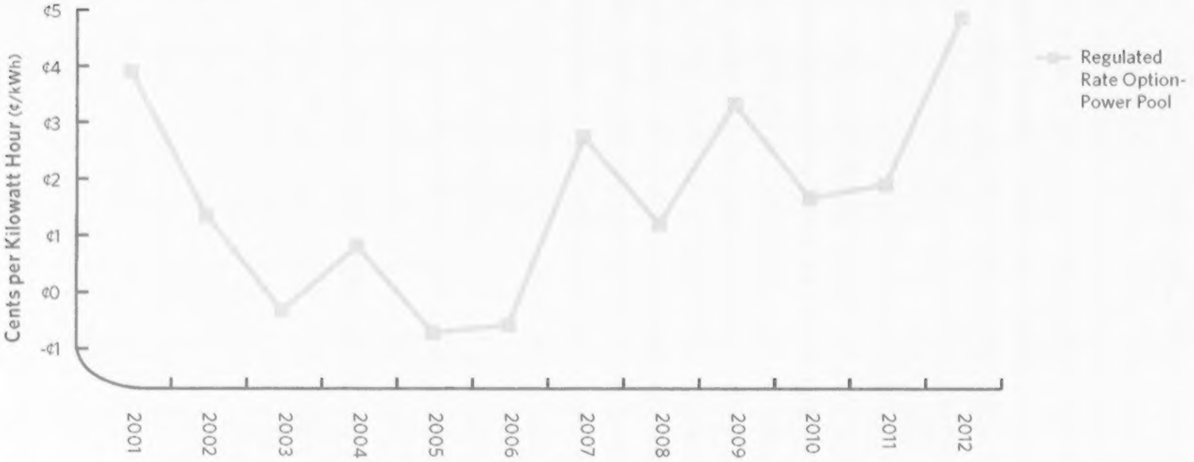
[7] For natural gas, true-ups and deferral accounts are allowed.

Figure 26.

Average annual difference between RRO energy charge and pool price, 2001 to 2012



It is impossible, of course, to pinpoint the exact causes of differences between prompt-month forward prices and actual monthly prices. Differences can arise for many reasons. Expectations about what is happening in other markets (natural gas, for instance), general business confidence and pending changes to regulatory rules governing forward trading are just a few examples.

Recommending changes to the wholesale market is well outside the mandate of the Retail Market Review Committee. However, in order to understand the volatility of the RRO, it is necessary to explain how the RRO has been affected by the recent volatility of hourly wholesale prices and the resulting changes in the forward market. The linkages between the RRO, wholesale prices and forward market changes are the basis of the committee's recommendations for changing how RRO energy is procured if the RRO is kept.

Pool Price Volatility

The RRO depends on forward prices, and forward prices depend on expected wholesale prices. Expected wholesale prices in turn should depend on forecasts of demand and supply.

- Overall demand is fairly predictable. It mostly depends on weather, population and industrial activity.
- Supply price is partly predictable through forecasts of fuel input costs and known reductions in availability due to planned outages of generation units and transmission lines.

At the same time, a number of inescapable factors can lead to unexpected changes in the wholesale pool price.

1. Transmission lines can fail, cutting off imports or supply from internal generating units.
2. Generating units can experience problems that cause them to shut down without warning. This reduces available supply. It can also reduce the amount of power that Alberta allows to be imported for reliability reasons.[8]

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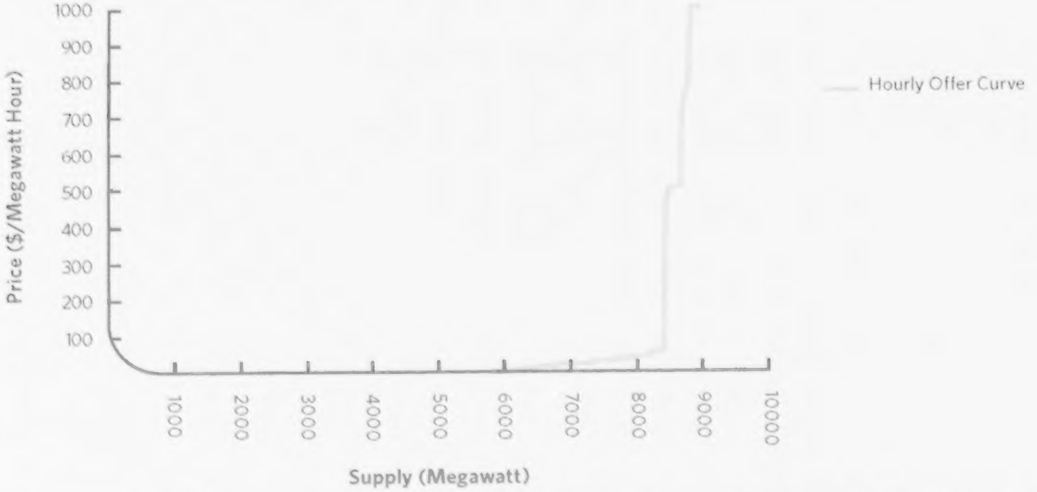
[8] The amount allowed to be imported—technically called "available transfer capability"—is restricted based on worst-case scenarios of unexpected outages of internal generation and of the tie-line itself. The tie-line (intertie) with BC is built to carry 1200 MW of electricity into Alberta, but it is never used at full capacity because it is not allowed to be the single biggest thing that could fail as a supply source.

Figure 27

An example of the hourly offer curve



Source: Adapted from the Market Surveillance Administrator's 2012 "Presentation to the Retail Market Review Committee," slide 42.

Given the steepness of the hourly offer curve in today's market, even small changes in supply can cause very large and sudden changes to the hourly pool price (see Figure 27). If all units are running and demand is 8,000 megawatts, then the pool price is around $50 per megawatt hour. Losing 400 MW of generation (one large coal plant) would push the price to $500/MWh. Losing another 400 MW would increase the price to $800/MWh.

3. Wind power has become a factor in driving volatility. As Figure 28 shows, the amount of wind on the system has risen dramatically in the last decade. More than 900 megawatts of wind power are now installed in Alberta (mostly in the southern part of the province), and wind now accounts for 9% of the Alberta's internal supply.

   The Alberta Electric System Operator has been working on getting better tools for forecasting real-time wind predictions and maintaining reliability. But forecasting tools are imperfect and variations in wind power can still cause large, unexpected changes in the pool price.

   The geographic concentration of wind farms often means that wind is there or not there. The result is that wind ramping up or down in real time can dramatically change the pool price. Because wind is an unpredictable source of power, the AESO currently deems it to be offered at a price of $0 to ensure that it gets dispatched. Sometimes units with higher offers are dispatched off the system to accommodate an increase in wind output. This can cause the pool price to drop in minutes from $100 to $0, and then reverse itself if the wind dies down.

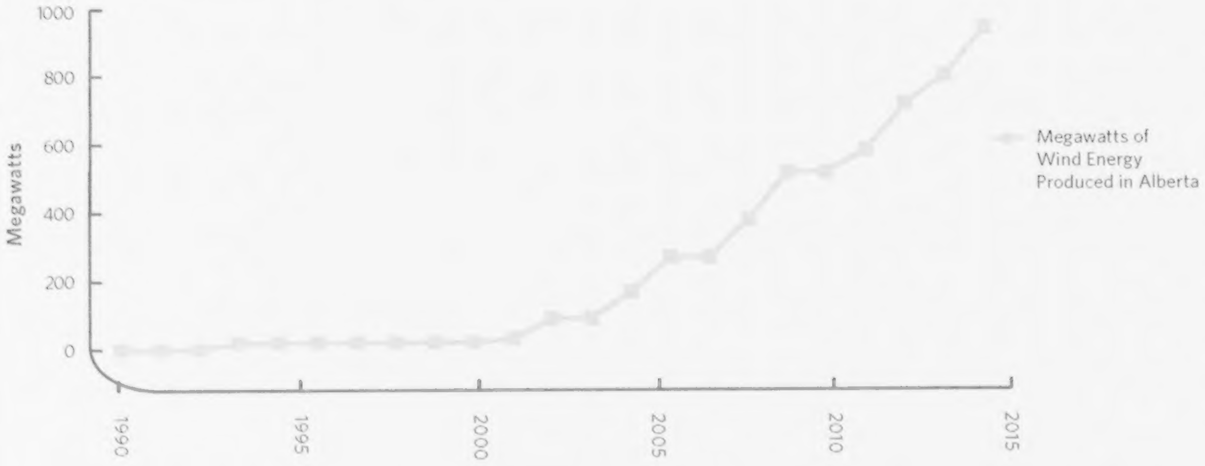
   Over the past five years, the AESO has been working with stakeholders to find ways to address intermittent wind power and its effects on both system operation and the wholesale price. Several long-term options have been considered, including ways of allowing wind generators to make non-zero offers.

4. Transmission congestion can cause price spikes. In several areas of Alberta, there are generating units that sometimes must run in order to maintain voltage levels, even if these units are not the cheapest source of supply.

5. Demand response can dampen price volatility. Currently about 600 megawatts of industrial load voluntarily curtails if the pool price rises. The effect can be dramatic. Figure 30 shows three days in May of 2010 where demand response of 500 MW dropped the wholesale price from $700/MWh to less than $200/MWh.

Figure 28.

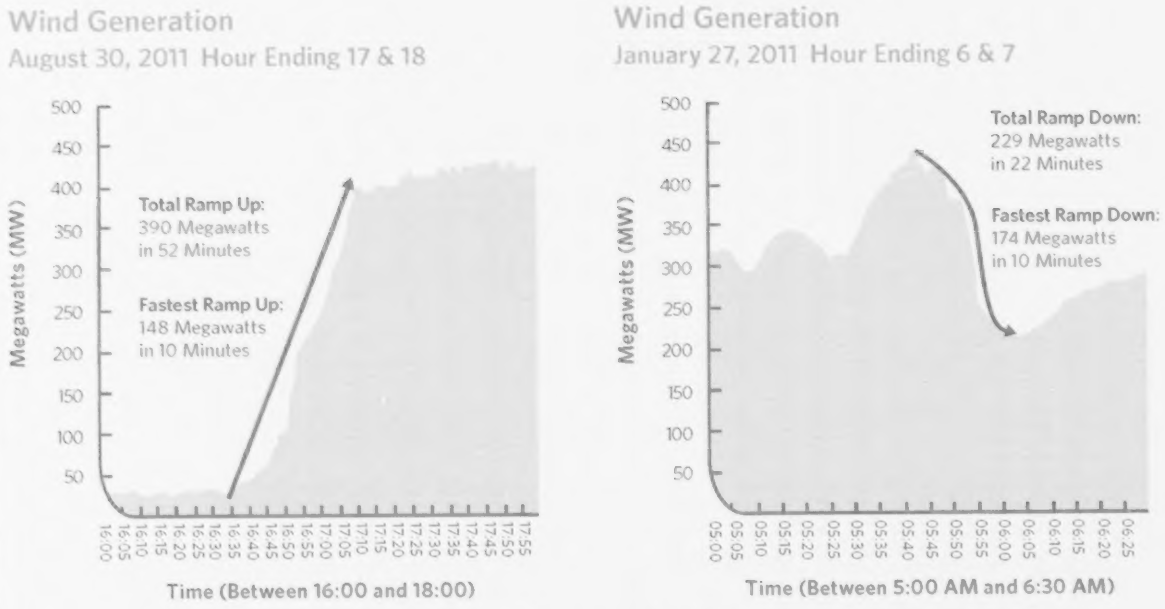
Growth of wind generation in Alberta



Sources:1990 - 2011 data: Canadian Wind Energy Association (n.d.). "List of Wind Farms." http://www.canwea.ca/farms/wind-farms_e.php, 2012 data: AESO (19 July, 2012). "Current Supply & Demand." http://www.aeso.ca/market/8856.html

Figure 29.

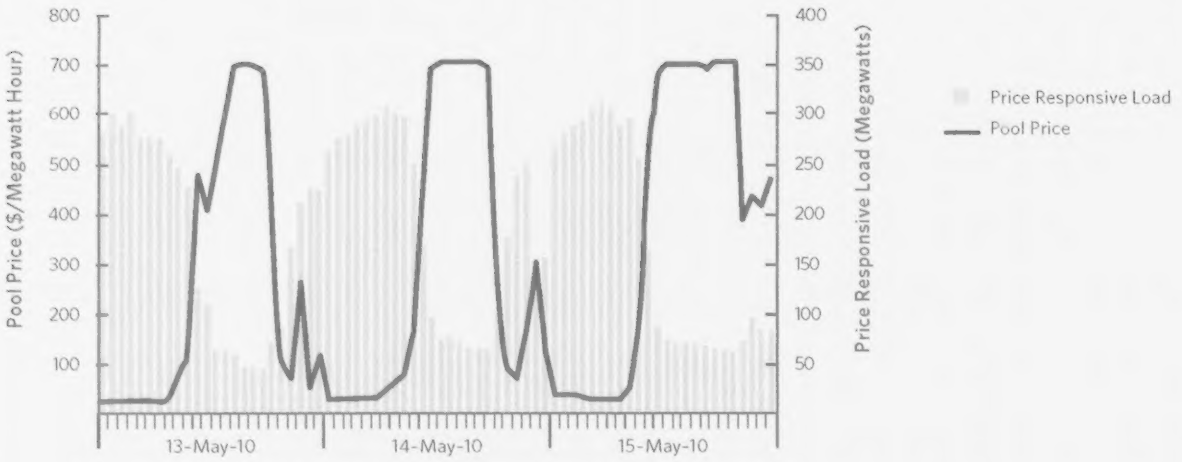
The variability of wind



Source: Alberta Electric System Operator, "AESO Presentation to Retail Market Review Committee" (April 30, 2012).

Figure 30.

Effect of demand response on pool price



Source: Market Surveillance Administrator, *Quarterly Report: April – June 2010* (August 9, 2010).

Average monthly pool prices do not seem much more volatile in recent years than they have been over the past seven years. However, because the distribution of prices within a month has changed: there are more extreme lows and highs.

Low pool prices

The number of offers to the pool at $0 is alarming. In its presentation to the Retail Market Review Committee, the AESO said it was not uncommon for 6,700 megawatts of generation to be offered in at $0. Zero-dollar offers are submitted for three reasons:

- As mentioned, wind producers are required to offer at $0, since wind generation is intermittent and, under current rules, cannot be treated as a firm offer of power at a given price.
- Conventional generation, particularly coal-fired units, have minimum stable operating levels. Sellers offer in the minimum level at $0 to ensure the unit continues to be dispatched.
- Imports are constrained by AESO rules to offer at $0 so that they cannot affect the pool price.

All three of these factors appear important in causing the pool price to be low during some hours. Low prices may seem like a good thing, but these are artificially low prices that do not reflect the actual costs of generation. This can reduce the incentive to build new generating capacity when it is actually needed.

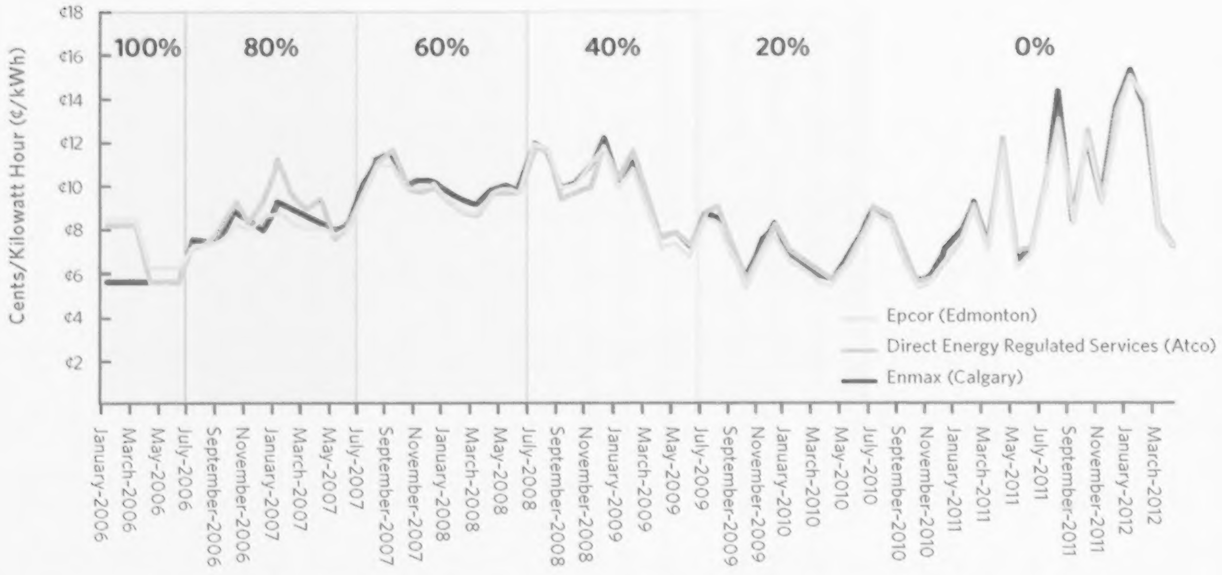
OBEG and high pool prices

Extremes on the high side appear to be driven by offer behaviour that has changed after the Market Surveillance Administrator's offer behaviour enforcement guidelines (OBEG) came into effect in January 2011. In essence, the guidelines clarified that, as long as there was no collusion, the MSA would not take action against generators who used high-priced offer strategies in order to raise the pool price. The MSA had been concerned that pool prices were not high enough to attract investment in new generation capacity, and saw the new guidelines as necessary to attract investment into an energy-only market (MSA 2011a).

Correlation is not causation. Nonetheless, the committee was struck by the changes that seemed to accompany the development and enactment of the new offer behaviour guidelines—namely, changes in the RRO, in forward prices, and in the volatility of hourly wholesale prices. The committee was also struck by the drop in the number of traders in the forward market.

Figure 31.

RRO rates and procurement methods, 2006



Source: Market Surveillance Administrator, "Presentation to the Retail Market Review Committee" (April 25, 2012).

Figure 31 shows how the RRO changed as the procurement method moved from a long-term hedge to one that systematically incorporated more volume bought in the prompt month (the forward market in the month ahead). It would have been reasonable to expect volatility to rise during the transition period, but it did not. The RRO did not start its current roller coaster ride until early 2011, after OBEG came into effect. Rather, RRO volatility appears to be associated with volatility in the forward market. This is shown in Figure 32, which compares the annualized volatility of forward prices for power, natural gas and crude oil.

The Market Surveillance Administrator began discussions with generators on the new offer guidelines in early 2010, and in April 2010, outlined its position in a discussion paper that was issued for comment (MSA 2010c). In July 2010, forward trading volumes dropped significantly. (See Figure 33.)

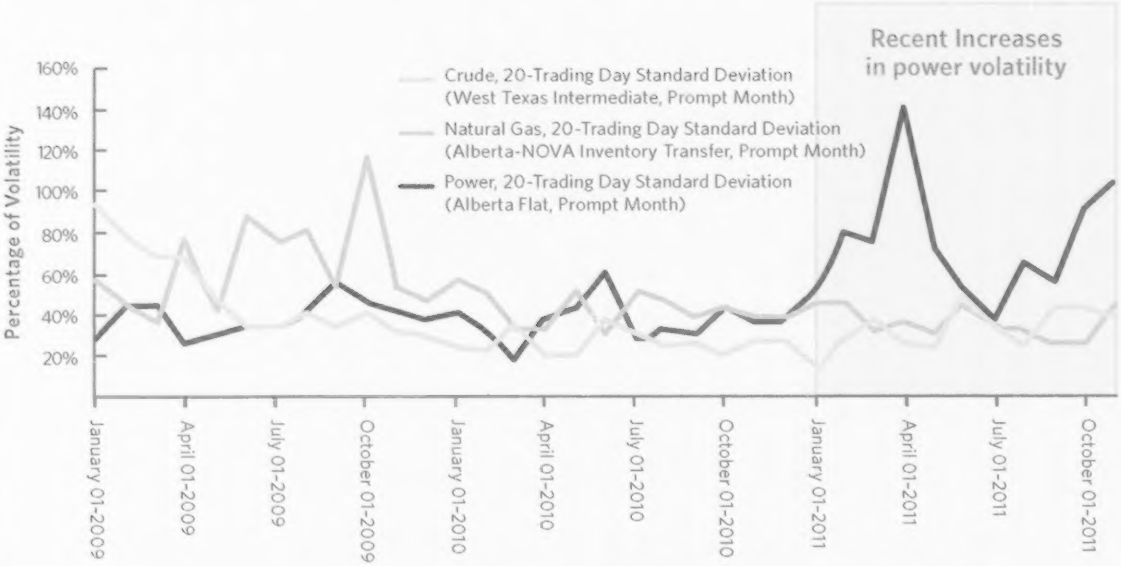
In its third-quarter report for 2010, the MSA noted that the participation of banks and hedge funds in the forward market had "...clearly been sliding throughout 2010" (MSA 2010d, p. 37). In its presentation to the Retail Market Review Committee, the MSA noted that some participants left the market completely, others reduced their trading and trading on products more than a year out dropped. Trading on products more than two years out vanished completely.

In its presentation to the Retail Market Review Committee, the Natural Gas Exchange said that the MSA's April 2010 position paper on OBEG likely contributed to the drop in trading volume and number of market participants. Purely financial traders like the banks and hedge funds may have been unwilling to compete with traders that owned generation and could potentially influence hourly prices. The NGX also pointed out that pending federal regulatory changes may affect the electricity forward products traded on their exchange, and that banks and hedge funds may have withdrawn from the market until those changes are implemented.

Whatever the causes, both the wholesale and forward markets have changed in ways that affect not just the RRO, but the retail market in general.

Figure 32.

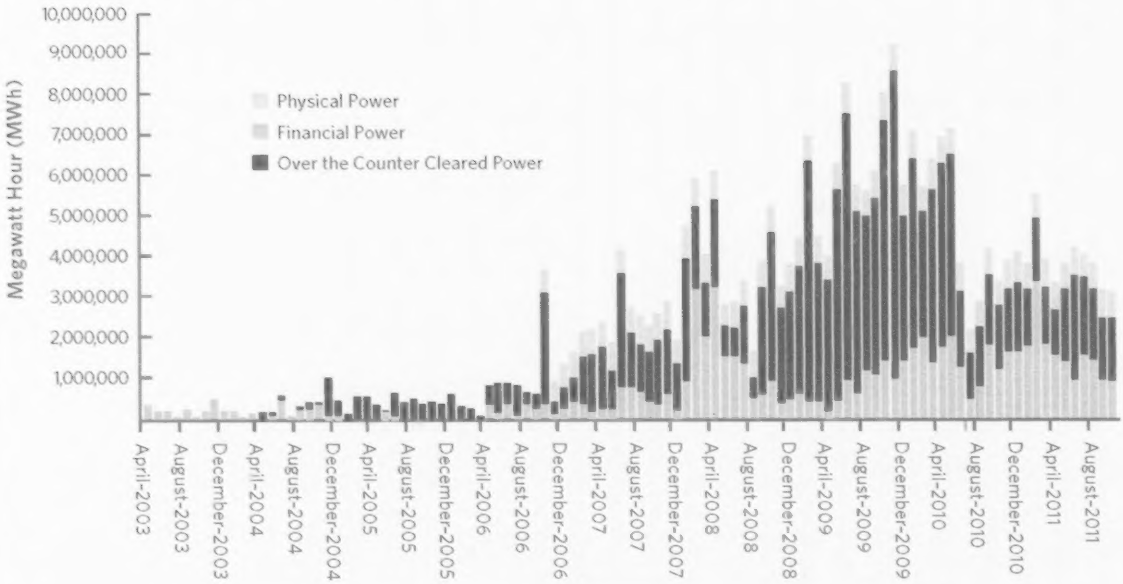
Comparing the volatility of power, natural gas and crude oil prices, 2009 to 2012



Source: Natural Gas Exchange, "NGX and its Role in the Alberta Electricity Markets" (April 27, 2012), slide 27.

Figure 33.

NGX forward trading volumes



Source: Natural Gas Exchange, "NGX and its Role in the Alberta Electricity Markets" (April 27, 2012), slide 27.

Addressing RRO volatility

Several experts advised the Retail Market Review Committee that, given today's circumstances, changing the RRO procurement process could be useful. These experts suggested that the forward procurement window should be extended for longer than 45 days. Forward prices have tended to rise as they get nearer to the month in question. Spreading forward purchases over a longer time period may give RRO providers more opportunity to take advantage of lower prices. The Market Surveillance Administrator felt that a longer procurement window might also level the playing field and eliminate the advantage that forward sellers enjoy when all purchasing is compressed into 45 days.

Chapter 5

What We Heard from Consumers

Findings from the Consumer Survey

In May 2012, the Retail Market Review Committee conducted a province-wide telephone survey to gather information about Alberta consumers' opinions and concerns about electricity.

Between May 11 and May 22, 2012, the survey captured the views of a random sample of 2,000 Albertans. A sample of this size is large enough to allow statistical data analysis and to generalize the findings to the population. In other words, within a certain margin of error, the survey findings approximate the views of Albertans as a whole.

The results are accurate within ± 2.19% 19 times out of 20. This means that if the same survey were administered to a comparable group of Albertans, the results would fall within a range of 2.19% higher or lower than the reported percentages 19 times out of 20.

Prices

Concern about Prices

While electricity bills are not a concern for 45% of Albertans, one in eight (13%) said they dreaded their monthly bill.

In this section, "low-income household" is used to mean a household with an annual income of less than $30,000.

More than one half of Albertans (54%) were as concerned about transmission and distribution costs as they were about electricity. Three in 10 Albertans (29%) were most concerned about the non-electricity portion of their bill.

Volatility and Pricing Preferences

Survey participants were presented with three hypothetical options for electricity pricing:

- a fixed price ($60 per month) that stayed the same all year
- a price of $50 to $70 per month that changed every three months
- a price that varied between $40 and $80 each month.

Figure 34.

Pricing Scenarios - Willingness to Accept Volatility

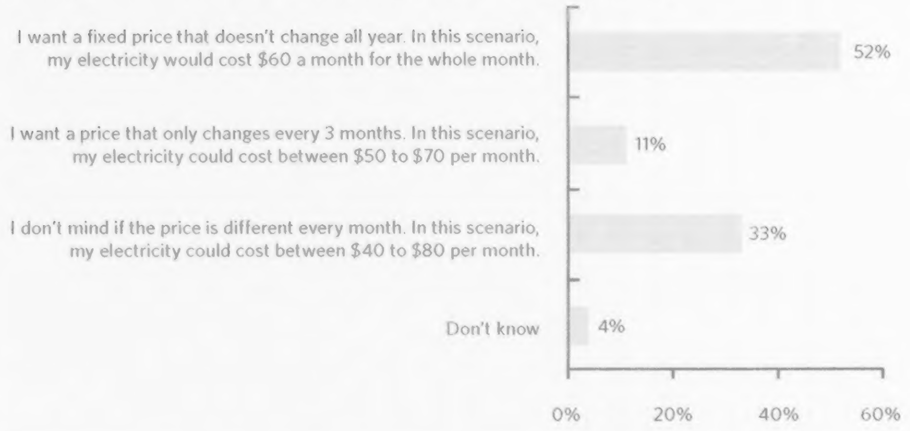
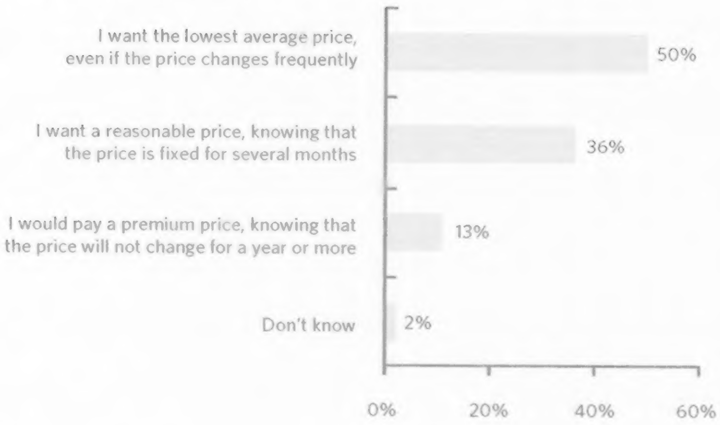


Figure 35.

Price and Volatility



One in 10 Albertans (11%) preferred a price that changed every three months. One in three Albertans (33%) did not mind a price that changed each month. More than half (52%) preferred a fixed annual price.

The results for this question suggest that consumers want stable prices that allow them to budget for their monthly electricity bills. However, in a subsequent survey question that did not specifically mention specific dollar figures, 50% of Albertans said they wanted the lowest average price even if that price changed often. One in eight Albertans (13%) said they would pay a premium for a fixed annual price. One in three Albertans (36%) preferred a reasonable price that would be fixed for several months.

Although more than half of Albertans preferred a fixed price for electricity, only one in eight would pay a premium for a fixed price.

Opinions about Regulated Prices

Survey participants were asked to select which of three proposed opinions about regulated prices most closely matched their own.

Six in 10 Albertans (58%) believed that the government should ensure all residential Albertans have access to a regulated price for electricity. Albertans with this opinion were more likely to believe that choice is not important.

One in 10 Albertans (26%) felt government should phase out the regulated electricity price as more choices become available. Younger Albertans were more likely to have this view than older Albertans.

One in 10 Albertans (10%) felt the government should eliminate the regulated electricity price as soon as possible. Older Albertans were more likely to hold this view than younger Albertans.

Choices

Value of Choice

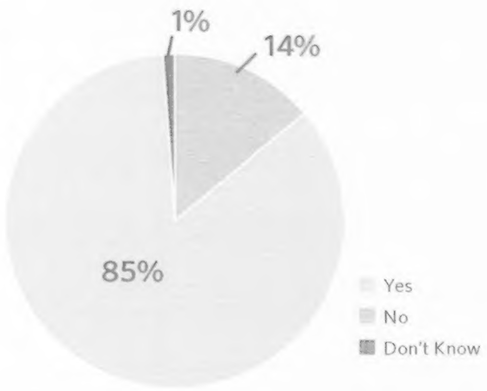
Eight in 10 Albertans (81%) believed being able to choose a retail electricity provider was important.

Awareness of Choice

Most Albertans (85%) were aware they could choose the company that provides the electricity they use. 80% of rural Albertans were aware they had a choice of companies, compared to 86% of urban dwellers. 71% of homeowners were aware they had a choice, compared to 88% of renters. Only 74% of low-income Albertans were aware they had choices, compared to 90% of high income households.

Figure 36.

Do you know you have a choice about which company sells you the electricity you use in your home?



Information about Making Choices

Six in 10 Albertans (59%) felt they had enough information to choose the company they bought their electricity from. Four in 10 Albertans (40%) felt they lacked sufficient information to make a choice.

Six in 10 Albertans (57%) said they needed price information to make informed decisions about buying electricity. One in five (22%) said company reputation was an important factor.

Other factors Albertans identified as being important for their electricity decision-making included transmission, distribution and other fees (11%), contract-related information (10%) and information about sources of energy (7%), reliability (4%) and impact on the environment (4%).

Switching

Switching Household Services

Albertans are comfortable making switching decisions regarding their telephone, television or Internet services, but less comfortable switching their electricity or natural gas services.

- 64% of Albertans reported having switched their telephone, television or Internet services at some point in their lives.
- 44% reported having switched their mobile phone service.
- 36% had switched their electricity services.
- 26% had switched their natural gas services.

Switching Electricity Providers

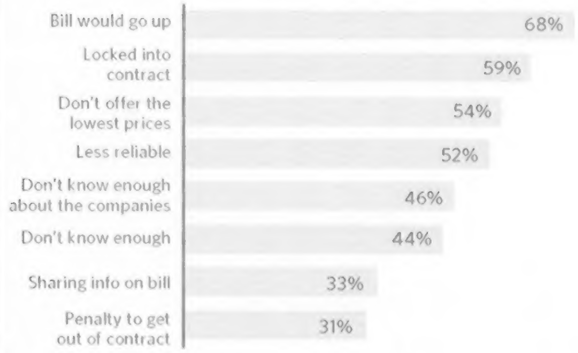
In an open-ended question, consumers were then asked to identify their main concerns about switching electricity providers. More than half (55%) named cost as their primary concern. Contracts placed second, with 10% of Albertans identifying them as a concern. Five per cent of Albertans identified reliability, service, and transmission and distribution fees as concerns. Eight per cent could not name a switching-related concern.

Survey respondents were then asked to rate their concern about eight listed issues related to switching electricity companies. Albertans' main concerns related to cost and being locked into a contract.

- 68% of Albertans were concerned their electricity bills would go up.
- 59% were concerned about being locked into a contract.
- 54% were concerned that contracts do not offer the lowest prices.
- 52% were concerned their electricity service would be less reliable.
- 46% were concerned that they did not know enough about the company offering the service.
- 33% were concerned about sharing the information on their bill.
- 31% were concerned about having to pay a penalty to get out of their contract.

Figure 37

Concerns About Switching Electricity Companies



Signing Electricity Contracts

Nearly four in 10 Albertans (37%) have signed a contract for the electricity they used in their homes. The survey found few discernible differences among the types of people who sign electricity contacts.

Bills

Understanding Electricity Bills

Nearly half of Albertans (46%) found their bills easy to understand, and another 38% had no concerns. Only 14% of Albertans (one in seven people) found their electricity bills difficult to understand. Albertans who live in the northern and southern parts of the province were more likely to have difficulty understanding their bills than Albertans in central regions.

Billing Detail

Most Albertans want to see details on their electricity bill. More than half (54%) prefer a very detailed billing breakdown, and an additional 41% prefer a somewhat detailed breakdown. Only 5% of Albertans did not want to see detailed breakdowns on their bills.

PRICE IS PRIORITY

Price was a top priority for Albertans in many sections of the telephone survey.

When survey participants were asked what information people needed to make informed decisions about buying electricity, 57% identified price information. Company reputation came second, at 22%.

When survey participants were asked to identify their main concerns with regard to switching electricity providers, 55% identified price. Contract-related concerns (such as being able to exit an agreement without penalty) came second, at 10%.

Consumer Preferences

Buying Considerations

In responding to an open-ended question, 65% of Albertans identified price as the primary consideration when making choices about buying electricity. Service reliability came second, at 20%, followed by customer service. Since reliability is a distribution utility issue, not a retailer or electricity sale issue, these concerns demonstrate a need for more consumer education.

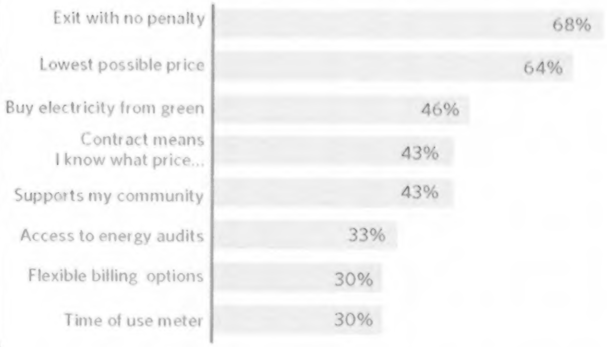
Electricity-Related Benefits

Survey respondents were asked to weigh the importance of eight listed benefits related to buying electricity. Flexible contracts and low prices emerged as leading factors.

- 68% of Albertans felt it was important to be able to exit a contract without penalty.
- 64% felt it was important to get the lowest possible price
- 46% felt it was important to buy electricity from green sources.
- 43% felt it was important to have an electricity contract with a stable price each month.
- 43% felt it was important to buy electricity from a company that supports the local community.
- 33% felt having access to energy efficiency audits was important.
- 30% felt it was important to have flexible billing options.
- 30% felt having a time-of-use meter was important.

Figure 38

Benefits of Buying Electricity



Summary and Implications

Albertans are more concerned about issues such as health care and education than they are about electricity prices. This may be because electricity costs are reasonable and service is very reliable. Some Albertans may not see the need to educate themselves about the electricity market and so have not looked for information and tools required to switch providers or sign a retail service agreement.

Most Albertans realize that they have choices with regard to buying electricity, and most believe that having choices is important. Most Albertans say they have enough information to decide on an electricity provider, but 40% say they do not understand how to compare and evaluate their options. This suggests that it would be useful to provide consumers with a comparison tool.

With regard to buying electricity, most Albertans prefer to pay a fixed price that remains constant throughout the year. Almost 60% of Albertans say the government should ensure that residential customers have access to a regulated price. This suggests a desire for stable monthly pricing that allows people to budget accordingly. However, Albertans' desire for longer-term, fixed-price arrangements is in conflict with their willingness to pay a premium to guarantee fixed prices.

Although 52% of Albertans say they prefer a fixed annual price to one that changes monthly or quarterly, only 13% say they are willing to pay a premium for it. And 50% of Albertans say they prefer paying the lowest possible price, even if that means their bill changes frequently. The disconnect between Albertans' desire for price stability and their desire for low prices suggests that consumers could benefit from a comparison tool that showed historical information on how prices varied according to different contract terms. The disconnect also shows the need for additional information about what the retail market can provide in contrast to what government can provide. The government's "Regulated Rate Option" is not intended to substitute for stable pricing options that are available in the market today.

SURVEYS AND SURVEY METHODOLOGY

In addition to the two surveys it commissioned, the Retail Market Review Committee examined the results of two recent telephone surveys conducted by Epcor and by the Alberta Department of Energy. The findings are located on the website www.rmrc.ca

The phone survey and online questionnaire demonstrate that consumer opinions and preferences vary a great deal. One important conclusion that the committee draws from consumers is the need for a robust market with choices to meet the varied preferences of consumers. these choices relate to the dimensions that people always seem to care about: prices, bills, pricing options like time-of-day, price volatility, energy management, green power, convenience, trust in the marketplace, etc. No one tariff, however well intentioned, can satisfy everyone's needs.

Feedback from Albertans

Between May 15 and July 23, 2012, several hundred Albertans shared their ideas and opinions on retail electricity through an online questionnaire on www.rmrc.ca. Online participants were "self-selected," which means anyone could complete the questionnaire, and some people may have completed it more than once.

Although the results do not represent any definable population and cannot be considered to reflect the views of all Albertans, the online questionnaire gave citizens the opportunity to offer ideas and insights that could not have been captured through a structured telephone survey.

A sampling of Albertans' comments follows:

- "If I were to switch I would want the lowest price available with no fixed price contract or fine print tying me to their company for a fixed period of time. Electricity is a commodity that I want to buy with no risk overhead attached."
- "I would want to see price charts comparing suppliers over a period of time."
- "I have no clue. It is way too confusing."
- "People want reasonably priced power."
- "Pricing is important, but only if it changes the way I use electricity...If the company I bought electricity from were to install a smart meter that charged more for peak-hours electricity and helped me use electricity in a more efficient manner, that would be the company I would choose.
- "The lowest price and very good service."
- "I am looking for energy that is renewable."
- "I'm looking for the best price and the simplest plan. I generally resent having to spend the time researching buying electricity because I think it is way too complex for most people to understand."

A summary of additional comments can be found at www.rmrc.ca

Chapter 6

Is the Retail Market Competitive?

The Committee's Assignment

The Retail Market Review Committee was tasked with addressing a number of extremely complex issues. After hearing two weeks of presentations from agencies involved with the retail market, and another two weeks of presentations from stakeholders, the committee was struck by one fundamental issue: to date, government and industry have not analyzed the retail market nearly as thoroughly as they have the wholesale market. The wholesale market received a great deal of attention leading up to its opening in 1996. Years of effort were put into its design and into the creation of new institutions and organizations to support it, and the wholesale market has been continuously refined by agencies with specific mandates to improve its efficiency and competitiveness.

The retail market now deserves the same level of industry involvement and scrutiny.

Section 9a of Ministerial Order 32/2012 directed the Retail Market Review Committee to review the need for and the appropriate design of a default rate. The committee's analysis and recommendations with regard to this assignment are outlined in Chapter 9. Section 9b of the Ministerial Order directed the committee to conduct its review "with due regard" to the following parameters:

- Alberta legislation and policies regarding electricity markets
- the costs included in the current default rate (the Regulated Rate Option, or RRO)
- the province's regulatory and market structures

By their nature, these parameters encompass a number of issues. The committee's analyses of these issues are presented in this chapter.

The following information offers suggestions for general improvements to Alberta's electricity markets. These include increasing competitiveness by reducing barriers to entry for competitive retailers, removing barriers to market growth and development, and minimizing barriers to consumer switching.

Recommendations based on this chapter are made formally in Chapter 8.

Assessing Market Competition: Typical Approaches

Two quantitative measures of concentration are generally used to assess the competitiveness of markets:

- assessments of how widely market shares are spread among competitors
- concentration ratios

Both measures get at the question of competition indirectly. They assume the existence of more firms, each with a lower market share, generally indicates more competition.

The most widely used measure for assessing the spread of market shares is the Herfindahl-Hirschman Index (HHI), which assigns a score from 0 to 10,000 based on market shares held by all the firms in the industry. The lower the HHI, the more evenly distributed the market shares are among larger numbers of market participants. Concentration ratios indicate the market shares held by the top firm or the top three or five firms. As with the HHI, it is presumed that the lower the market share held by the largest firms, the greater the competition.

Unfortunately, these measures are not definitive. First of all, defining the boundaries of a market is not always easy or without controversy. There might be geographic boundaries that are relevant to the analysis, or other dimensions that define which market is worthy of analysis. Furthermore, although lower HHIs and concentration ratios generally do indicate more competitiveness, the opposite is not always true. It is quite possible to see significant competition in an industry with only a few competitors or in an industry where there is only one large firm, but that firm is faced with a number of smaller competitors. This is because competitiveness is determined by many factors, not just the number of firms and their market shares.

Purely quantitative measures of competition are not sufficient to assess the success or failure of a market. Rather, it is necessary to examine the specific, important attributes of the market itself. The ease of switching from one company to another, for example, is crucial. If it is hard or costly to switch, then firms are more able to raise prices or provide lower-quality service, and it does not matter how many firms there are - they each get to test the limits of their customers' endurance. Conversely, a firm might have 90% of the market share, but if its customers can switch at no cost, at a moment's notice, that firm will lose market share rapidly if it does not offer good prices and service.

Although competition authorities do consider quantitative measures of concentration, they also tend to look at outcomes. For example, they would consider factors such as the following: Is there entry by new suppliers? Are new products and services being offered? Are retail prices rising slower or faster than the prices of inputs? How are retail prices changing with respect to other jurisdictions?

Competition authorities also analyze a number of factors that make an industry more or less competitive. These include:

- the existence of barriers to entry and exit for new suppliers
- the costs consumers incur when choosing different suppliers, including the cost of switching itself and the cost of gathering enough information to make a choice
- non-cost barriers to switching, including uncertainty about the quality of a product or service or unfamiliarity with a supplier's reputation

The State of the Market

Assessments of Retail Competition in Alberta

Donald McFetridge, Independent Economic Consultant to the Utilities Consumer Advocate

Following the establishment of the Retail Market Review Committee, the Utilities Consumer Advocate hired an independent economic consultant, Donald McFetridge, to analyze Alberta's retail market and determine whether it was sufficiently competitive to consider removing the RRO as a default rate. The consultant's public report (McFetridge 2012) is posted on www.rmrc.ca.

McFetridge identified and examined the following issues:

- intensity of competition, as indicated by the number of sellers, their relative sizes, the variety of products being offered, the availability of discounts and changes in market shares over time
- demand-side factors, including consumer attitudes, switching rates and barriers to switching
- barriers to new competitors, including barriers arising from regulations and industry structure, and barriers posed by incumbents' actions to deter entry

McFetridge calculated the HHI and concentration ratios under two scenarios. The first included existing RRO providers as separate sellers with their own market shares in the retail market. The second assumed that, if the RRO was eliminated, all existing RRO customers would be assigned to Enmax, Just Energy and Direct Energy in proportion to their current market shares. (McFetridge notes that this scenario was "an extreme case.") Under the first scenario, McFetridge concludes that there are no concerns about competitiveness: the HHI is low and "... the three largest competitive retailers do not have market power either individually or collectively" (McFetridge 2012, p. 14). The story is not so rosy under the second scenario, since it assumes that 70% of the market is transferred to the three retailers who are already the largest in Alberta. Not surprisingly, the resulting HHI is quite high and the three-firm concentration ratio goes to 99.5%.

McFetridge notes that the variety of products offered has increased substantially over the last five years. He also points out that the products on offer appear to be "... at least as good if not better than the RRO" (McFetridge 2012, p. 22), noting the continued increase in switching to retail electricity providers as evidence that customers agree. Market shares of the three largest retail providers varied between 2006 and 2011. McFetridge interprets this as an indication that there is healthy competition for customers among these retailers.

McFetridge believes that residential, farm and small business customers represent distinct market segments in terms of willingness to switch. Support for this observation is evidenced by different switching rates and his interviews with some small commercial customers. Net switching rates have increased steadily in all three groups over the years, as shown in Table 3.

Table 3. Percentage of sites switching away from the RRO, 2006 to 2012

Year	Residential (%)	Farm (%)	Small Commercial (%)
2006	18.03	11.27	44.33
2007	23.42	15.58	44.57
2008	27.3	17.9	46.39
2009	27.95	18.65	46.71
2010	28.38	19.07	46.81
2011	30.47	20.62	47.85
2012	34.42	25.71	49.76

Sources: Data for 2006 to 2011 are from Donald G. McFetridge, *Competition in the Alberta Retail Electricity Power Market*, 2012. Data for 2012 are from the Alberta Department of Energy, and are current as of April 2012.

McFetridge points out that these numbers actually underestimate activity since they do not count switching between different retail electricity providers, and they net out customers who switch back to the RRO.

> "When compared with other jurisdictions, Alberta has one of the highest switching rates in North America."
>
> —Alberta Department of Energy, *Retail Market Review* (Electricity Markets Branch, 2010), p. 15.

Table 4. Switching by service area, May 2012

	% Switched as of May 2012			
Service Area	Residential	Farm	Small Commercial	Industrial
ATCO	28.81	28.74	58.85	91.9
Calgary	48.42	na	50.66	76.33
Cardston	51.59	na	60.25	100
Crownest Pass	41.92	na	57.14	100
Edmonton	23.18	na	27.97	72.54
Fort MacLeod	48.32	na	58.02	100
FORTIS	28.61	24.94	56.72	90.08
Lethbridge	55.83	na	70.67	80.34
Red Deer	44.69	na	51.78	84.5

Source: Alberta Department of Energy, "Switching by Customer Group," 2012h

The numbers also mask some substantial differences across the province. As seen in Table 4, net residential switching rates range between 23% and 28% in the City of Edmonton and in the Atco and FortisAlberta service areas. This is in stark contrast to Calgary and other municipalities, where switching rates range from 42% to 56%.

VaasaETT 2008

In its 2008 *World Energy Retail Market Rankings* report, VaasaETT ranked the Alberta energy retail market as being the eleventh most active retail market, in terms of switching rates, out of more than 50 competitive energy retail markets worldwide. VaasaETT is a global research and advisory agency. It focuses on utility customer psychology and behaviour as it applies to customer value, market efficiency and demand response within liberalized and smart metering environments.

ABACCUS 2011

As in previous years, the 2011 *Annual Baseline Assessment of Choice in Canada and the United States* (ABACCUS) report continues to rank Alberta's retail market development highly, relative to other North American jurisdictions (Distributed Energy Financial Group, 2011a). Alberta is included in a small group of jurisdictions described as having "...vibrant retail markets with numerous energy suppliers and choices for customers of all sizes" (p. 1). Of the 16 U.S. states and two Canadian provinces evaluated, Alberta is ranked fourth in overall residential retail market development.

Table 5. Residential ABACCUS scores and ranks, 2011

Jurisdiction	2011 Score	2011 Rank	2011 Assess.
Texas	85	1	Excellent
New York	63	2	Excellent
Pennsylvania	62	3	Excellent
Alberta	62	4	Good
Connecticut	55	5	Good
Maryland	53	6	Good
Illinois	50	7	Good
Massachusetts	48	8	Good
Ontario	47	9	Unsatisfactory
Ohio	46	10	Marginal
Maine	46	11	Marginal
New Jersey	45	12	Marginal
District of Columbia	39	13	Marginal
New Hampshire	35	14	Marginal
Michigan	33	15	Unsatisfactory
Rhode Island	32	16	Marginal
Delaware	31	17	Marginal
California	29	18	Unsatisfactory

Source: Distributed Energy Financial Group, *Annual Baseline Assessment of Choice in Canada and the United States (ABACCUS): An Assessment of Restructured Electricity Markets*, 2011

COMMON MEASURES OF SUCCESS

As explained in this chapter, economists and financial analysts use a number of tools to assess how competitive a retail electricity market is. But quick snapshots of success are also useful, if only because the general public and policy-makers rely on them. Policy-makers and the public do not often go to detailed reports by credentialed experts when they are interested in a market. Perhaps they should, but they are human, and they form quick judgments based on limited information, and they rely on common measures that provide a glimpse of the market's success.

In considering retail electricity markets, people rely on snapshots of the following features:

- the percentage of customers who have switched, or the percentage who have actively participated in the market[1]
- the number of retail electric providers[2]
- the number of distinct products or offers[3]
- the variety of products or offers[4]

The 2011 ABACCUS report[5] (DEFG 2011) presents these and about two dozen other measures of market structure and performance. As shown in Table 6, 7 and 8, electricity switching rates in North American jurisdictions, a comparison of the major restructured electricity markets in North America reveals that Alberta compares well to other jurisdictions.

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[1] There are variations in the reporting of these numbers in different jurisdictions, and different definitions of "switching." Net switching refers to the percentage of customers who are not currently on default service, but some jurisdictions include switching to an affiliated retail electricity provider, while others do not. Furthermore, some customers may switch and then return, while others may switch repeatedly within a period, thus creating distinctions between a "net switching" and "gross switching."

[2] Generally, this is the number of active retail electricity providers available to a majority of consumers. Pockets of consumers may have less choice if retail electricity providers are not active in all parts of a province or state.

[3] Generally, this is the number of distinct offers available to a majority of consumers.

[4] A distinction may be made among these product types in residential markets: month-to-month pricing, fixed pricing, green pricing, prepaid energy, time-of-day pricing, and special offers and discounts. The variety of offers is increasing rapidly as retail electricity providers compete to acquire and retain customers.

[5] *Annual Baseline Assessment of Choice in Canada and the United States*

Table 6. Electricity switching rates in 2011 residential electric markets in North American jurisdictions

Jurisdiction	Switching Percentage
Texas	87.10%
Connecticut	40.60%
Ohio	34.84%
Alberta	27.91%
New York	19.60%
Pennsylvania	19.50%
Maryland	18.40%
Massachusetts	12.10%
New Jersey	8.90%
District of Columbia	5.40%
Delaware	2.60%
Rhode Island	2.50%
Maine	2.30%
Illinois	2.01%
California	0.10%

Source: Distributed Energy Financial Group, *Annual Baseline Assessment of Choice in Canada and the United States (ABACCUS): An Assessment of Restructured Electricity Markets*, 2011

Table 7. Number of electricity retailers in 2011 residential electric markets in North American jurisdictions

Jurisdiction	Number of Retailers
Texas	42
New York	35
Pennsylvania	33
Connecticut	19
Maryland	13
Illinois	12
New Jersey	11
Alberta	10
Ontario	9
New Hampshire	7
District of Columbia	5
Maine	4
Massachusetts	4
Delaware	2
Ohio	2
Rhode Island	2

Source: Distributed Energy Financial Group, *Annual Baseline Assessment of Choice in Canada and the United States (ABACCUS): An Assessment of Restructured Electricity Markets*, 2011

Table 8. Number of electricity offers in 2011 residential electric markets in North American jurisdictions

Jurisdiction	Number of Electricity Offers
Texas	246
New York	74
Pennsylvania	55
Illinois	34
Maryland	32
Connecticut	28
Alberta	17
New Jersey	11
New Hampshire	7
Maine	4
Massachusetts	4
District of Columbia	3
Ontario	3
Delaware	2
Ohio	2
Michigan	1
Oregon	1
Rhode Island	1

Source: Distributed Energy Financial Group, *Annual Baseline Assessment of Choice in Canada and the United States (ABACCUS): An Assessment of Restructured Electricity Markets*, 2011

Alberta opinions

As noted in Appendix 6 of this report, industry stakeholder opinion was divided on the issue of retail market competitiveness. Of those who expressed a direct opinion, seven said the market was competitive or reasonably competitive, and three said it was not very competitive.

The Market Surveillance Administrator believes the recent emergence of several small retailers demonstrates that the retail market for residential, farm and small commercial customers is competitive.

Choices in Alberta Today

The retail market for residential and small customers in Alberta had a slow start. It was opened to competition in 2001, but the government imposed a price ceiling on rates in late 2000. Wholesale electricity prices spiked in the fall of 2000 when the California market crisis hit, droughts limited the availability of hydro, and natural gas prices soared. The government's price ceiling turned out to be a floor. Market conditions changed in 2001 and drove wholesale prices down well below the cap, providing an object lesson on the dangers of well-intentioned but short-sighted government interventions in markets.

The government's price cap was intended to protect small customers from a rate shock. Instead, it likely did long-term harm. It signaled to potential new retailers that the Alberta government was willing to interfere in the market without warning. As of 2004, there was only one retail electricity provider offering two products. As of April 2005, only 7% of eligible small customers had moved off of the Regulated Rate Option (DOE 2005a). The default rate in effect at that time had been set to expire in July 2006. In 2005 the government decided to redesign the rate and continue it indefinitely, acknowledging that barriers to entry and to switching still needed to be addressed.

A LESSON FROM HISTORY

In its 2003 report, the Advisory Council on Electricity noted that the government-imposed price cap gave consumers price protection in the short term, but prolonged the problem over several years:

> In effect, the government ended up delaying the benefits to consumers that would have come from the growing generation capacity brought about by deregulation. It added to...[consumer] confusion and also increased uncertainty in the market... [The move] was seen by some consumers and investors as evidence that the deregulated market was not stable or working well and that the government did not have faith in market reforms. (n.p.)

Since 2006, however, retail competition has continued to develop and net switching rates are now much higher. As of July 2012, consumers could choose from 12 retail electricity providers who offer about 50 different products, and one-third of residential consumers were off the default rate.

The recent increase in the number of retail electricity providers seems to be due to a number of factors. First, the Alberta Department of Energy, the Alberta Utilities Commission and the Alberta Electric System Operator have been working steadily to reduce barriers to entry. Second, an Alberta company that had handled billing data for oil and gas companies since 1979 decided to expand its business to the electricity market to provide services to self-retailers. This led to the entry of nine so-called "boutique" retailers that offer lower prices for more bare-bones service than what is offered by the larger, more traditional retail electricity providers. For example, boutique retailers do not have customer call centres that operate throughout the day. Instead, they respond to questions or problems by phone during normal business hours or by email (typically within a day, depending on the nature of the question).[1]

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[1] N. Clark, personal communication, July 17, 2012 (via email to the Retail Market Review Committee secretariat).

Table 9. Retail electricity providers' product offerings as of June 2012[2]

REP	Name/ Description	Term	Electricity Rate (¢/ kWh)	NG Rate ($/GJ)	Early Exit Fee	Service Area Availability
Direct Energy	Super Flex Dual Fuel	3 years	8.88	Flow-through + $2/ GJ, capped at $5.99/ GJ	No (with 30 days notice)	All?
	Stability Plus Dual Fuel	3 years	10% off lowest RRO for first 6 months, 8.88 thereafter	4.99	No (with 30 days notice)	
	Stability Plus Electricity	3 years	10% off lowest RRO for first 6 months, 8.88 thereafter		No (with 30 days notice)	

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[2] Source: UCA website

Table 9. Retail electricity providers' product offerings as of June 2012[2]

REP	Name/ Description	Term	Electricity Rate (¢/ kWh)	NG Rate ($/GJ)	Early Exit Fee	Service Area Availability
Just energy	Price Protection	3 years	8.89		Electricity: 1.5 ¢/kWh x estimated consumption to end of term, capped at $75/ year NG: $1.50/GJ x estimated consumption to end of term, capped at $75/year	All?
	JustGreen Power (100%)	3 years	11.39			
	JustGreen Power (60%)	3 years	10.14			
	Price Protection Dual	3 years	8.89	3.89		
	JustGreen Power Dual (100%)	3 years	11.39	3.89		
	JustGreen Power Dual (60%)	3 years	10.14	3.89		
	Price Protection	5 years	8.99			
	JustGreen Power (100%)	5 years	11.49			
	JustGreen Power (60%)	5 years	10.24			
	Price Protection Dual	5 years	8.99	3.99		
	JustGreen Power Dual (100%)	5 years	11.49	3.99		
	JustGreen Power Dual (60%)	5 years	10.24	3.99		
	Predict-a-Bill	5 years	$64.99/month		Electricity: $75/year/meter	
	Predict-a-Bill Dual	5 years	$59.99/month	$39.99/month	NG: $75/year/meter	

Table 9. Retail electricity providers' product offerings as of June 2012[2]

REP	Name/ Description	Term	Electricity Rate (¢/ kWh)	NG Rate ($/GJ)	Early Exit Fee	Service Area Availability
EasyMax	5 year Fixed	5 years	8.9		No, with one month notice	All?
	5 year Fixed Dual[3]	5 years	8.9	5.99		
	Floating	5 years	Flow-through + 1 ¢/kWh + adders*			
	Floating Dual[4]	5 years	Flow-through + 1¢/kWh + adders	Flow-through + 99¢/ GJ		
	Greenmax[5]	5 years	Flow-through + 1¢/kWh + adders	Flow-through + 99¢/ GJ		
Adagio Energy	Floating price		Flow-through + .75¢/kWh		No, with 15 day notice	ENMAX EPCOR Lethbridge Red Deer ATCO Fortis
	Fixed rate	3 years	8.9			
Bow Valley Power	Floating price		Flow-through + .8¢/kWh		No, with 15 day notice	ENMAX EPCOR Red Deer ATCO Fortis
	Fixed rate	3 years	9.35			
Brighter Futures Energy	Floating price		Flow-through + .8¢/kWh		No, with 15 day notice	ENMAX Fortis
	Fixed rate	3 years	9.35			

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3 Adders include charges to reflect line losses, UFE, and load shaping fees.

4 Dual plan customers receive an annual $100 rebate.

5 Greenmax plan customers forgo their $100 rebate on the understanding that ENMAX will contract renewable sources for 5000 kWh/year.

Table 9. Retail electricity providers' product offerings as of June 2012[2]

REP	Name/ Description	Term	Electricity Rate (¢/ kWh)	NG Rate ($/GJ)	Early Exit Fee	Service Area Availability
E.NRG Power	Floating price		Flow-through + .75¢/kWh		No, with 15 day notice	ENMAX
	Fixed rate	3 years	9.35			
Milner Power	Floating price		Flow-through + 1¢/kWh		No, with 15 day notice	ENMAX ATCO Fortis
	Fixed rate	1 year	8.85			
	Fixed rate	3 years	9			
Mountain View Power	Floating price		Flow-through + 1.5¢/kWh		No, with 15 day notice	All except REAs[5]
	Fixed rate	3 years	9.85			
Spark	Floating price		Flow-through + 1¢/kWh		No, with 15 day notice	EPCOR ATCO Fortis
	Fixed rate	3 years	9.35			
Spotpower	Floating price		Flow-through + 1¢/kWh		No, with 15 day notice	ENMAX EPCOR Lethbridge Red Deer ATCO Fortis
	Fixed rate	3 years		9.35		
Vector Energy	Floating price		Flow-through + 1¢/kWh		No, with 15 day notice	ENMAX Red Deer EPCOR Fortis
	Fixed rate	3 years	9.35			

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[5] Personal communication, Clare Smith, Customer Service Representative, Mountain View Power, June 24, 2012.

Alberta's boutique retailers appear to have been effective in increasing the number of products available. Consumers can now choose rates that fluctuate monthly or are fixed for one, three or five years. They can opt for dual fuel bills that give discounts for combining electricity and gas. They can choose plans that include different amounts of renewable energy, or pre-payment plans that pay interest on deposits.

Alberta's boutique retailers have also been effective in pushing larger retailers to make more attractive offers. For example, none of the boutique retailers have exit fees - they only ask for 15 days' notice. Two of the three large retailers have recently stopped charging exit fees for their longer-term fixed-price service agreements.

Although progress has been made, consumer choice is still limited in some parts of Alberta, including some rural electrification associations, some smaller municipalities and the City of Medicine Hat. (For a further discussion of this issue, see p. 116. Removing barriers to switching is an important step toward ensuring that all Alberta consumers have electricity choices.) Nonetheless, as Table 10 shows, most small customers appear to have access to at least eight retail providers. In fact, rural and smaller communities seem to have as much, if not more, choice than residents of larger cities.

Table 10. Retail electricity providers and plans, selected municipalities[6]

Location	Population[7] (thousands)	# REPS			RRO provider	# REP Plans by Term	
		Large	Boutique	Total		Floating	Fixed
Athabasca	3	3	9	12	EPCOR	2	3 (1, 3, 5 year)
Banff	8	3	9	12	EPCOR	2	3 (1, 3, 5 year)
Calgary	1,091	3	9	12	ENMAX	2	3 (1, 3, 5 year)
Cardston	4	3	1	4	Cardston	2	2 (3 and 5 year)
Edmonton	782	3	5	8	EPCOR	2	2 (3 and 5 year)
Edson	8	3	9	12	EPCOR	2	3 (1, 3, 5 year)
Fort Macleod	3	3	9	12	EPCOR	2	3 (1, 3, 5 year)
Fort MacMurray	63	3	5	8	Direct Energy	2	3 (1, 3, 5 year)
Grand Prairie	50	3	5	8	Direct Energy	2	3 (1, 3, 5 year)
Jasper	5	3	5	8	Direct Energy	2	3 (1, 3, 5 year)
Lac le Biche	9	3	9	12	EPCOR	2	3 (1, 3, 5 year)
Lacombe	12	3	9	12	EPCOR	2	3 (1, 3, 5 year)
Leduc	24	3	9	12	EPCOR	2	3 (1, 3, 5 year)
Lethbridge	88	3	3	6	Lethbridge	2	2 (3 and 5 year)
Peace River	6	3	5	8	Direct Energy	2	3 (1, 3, 5 year)
Ponoka	7	3	1	4	Ponoka	2	2 (3 and 5 year)
Red Deer	92	3	5	8	Red Deer	2	2 (3 and 5 year)
Rocky Mtn House	7	3	9	12	EPCOR	2	3 (1, 3, 5 year)
St. Albert	60	3	9	12	EPCOR	2	3 (1, 3, 5 year)
Vegreville	6	3	5	8	Direct Energy	2	3 (1, 3, 5 year)

Sources: Electricity data were gathered from The Electricity Shop online database, June 23, 2012. Population data are from Municipal Affairs, "2011 Municipal Affairs Population List," n.d.

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[6] Data gathered from The Electricity Shop online data base, June 23, 2012: http://www.theelectricityshop.net/.

[7] Government of Alberta (n.d.). 2011 Municipal Affairs Population List. Accessed June 23, 2012 from: http://www.municipalaffairs.gov.ab.ca/documents/msb/2011_pop.pdf

Economies of Scale

A commonly expressed opinion is that Alberta's residential market is not large enough to attract new large retailers from outside of the province. The Retail Market Review Committee examined data from the U.S. to see if there was evidence that smaller markets like Alberta attracted fewer retailers. No clear pattern emerged. This suggests the number of households is less important than other factors.

Alberta has about 1.3 million households, similar to Connecticut with 1.36 million households. Illinois, New Jersey, and Pennsylvania have a larger number of households at 3.4, 3.2 and 4.9 million respectively. Yet, as Table 11 shows, Connecticut has more retail electricity providers and a higher residential switching rate than Illinois, New Jersey or Pennsylvania.

The committee heard that retailers in the U.K. market achieve economies of scale with only 50,000 customers and that small, nimble, new market entrants are in fact more efficient than the incumbents serving many more customers. McFetridge (2012, pp. 31-32) expressed the opinion that "the number of customers required to break-even could be 10,000 or, in some instances, much less than that... While a non-trivial portion of retailers' costs are fixed and entrants must incur customer acquisition costs, minimum viable scale may not be large relative to the market and the time required to reach that scale could be as little as a year. The implication is that structural barriers to entry into electricity retailing are relatively low." Alberta has a number of specific barriers which, if addressed, would allow this potential to be realized.

Table 11. Number of retail electricity providers, switching and number of households, selected U.S. jurisdictions

State	Number of Households* (millions)	Service Area	Number of REPs	Residential Switching (percent)
Connecticut	1.36		19	40.6
Illinois	3.36	ComEd	12	2.4
New Jersey	3.18	Atlantic City Electric	9	12.3
		Jersey Central	10	11.4
		PSE&G	11	6.8
		Rockland	4	5.2
Pennsylvania	4.94	Allegheny Power	1	3.6
		Duquesne Light	4	28.7
		MetEd	2	1.8
		PECO Energy	11	17.3
		Penn Power	2	19.7
		PPL Electric	16	39.6
Texas	8.54	Oncor Electric	37	44.8
		CenterPoint Energy	37	53.5
		AEP Texas Central	38	65.1
		AEP Texas North	37	64.6
		Texas-NM Power	35	68.3

*Source: Except for Illinois, data on the number of households per state (2006 to 2010) were gathered from the U.S. Census Bureau, "State and County QuickFacts." Illinois data were obtained from the Nielsen Company, "PopFacts: Demographic Snapshot – ComEd Northern Illinois Service," 2011.

Barriers in the Retail Market

Markets can be vibrant, dynamic, and innovative, with firms pushing each other to provide better products and services at lower costs. Consumers—and those firms that are most successful at satisfying consumers—reap both short- and long-term benefits from competitive markets.

The modifier "competitive" is key. "Markets" alone do not necessarily deliver any benefits. Customers must be able to switch to different suppliers with relative ease in order to express their satisfaction or dissatisfaction with prices, products or service. And sellers must face the threat of losing market share to existing competitors or to potential new entrants. It is the combination of these two pressures that drives sellers to find ways to be more efficient and to develop better products.

Two distinct types of barriers currently exist in Alberta's retail electricity market:

- barriers to entry by new retail providers
- barriers to customers switching from one provider to another

Both types of barriers are analyzed in the following sections of this report.

Barriers to Entry for Competitive Retailers

The Existence of a Default Rate

The Retail Market Review Committee believes the existence of a default rate poses a significant barrier to entry. The issues related to the default rate and the committee's recommendations for addressing these issues are explored in detail in Chapter 9.

Deficiencies in Standard Business Practices

The Retail Market Review Committee heard that, in the U.K., creating a standard interface between energy retailers and distribution utilities was crucial for the development of retail competition.[8]

In Alberta, deficiencies in standardized business practices, processes and information transfer protocols increases retailers' costs of doing business over multiple service areas. The Alberta Utilities Commission has already made considerable progress in addressing this issue.

- In 2006, the Tariff Billing Code established standards for how electricity and gas distribution utilities transferred billing information to retailers. These standards were important because they created a standard data interface, enabled audit trails on billing information and virtually eliminated problems with "inaccurate and untimely billing" (AUC 2012a). (Gaps in the enforcement of Tariff Billing Code standards still need to be addressed. This issue is discussed in the "System Data Processes " section on p. 112.)
- In 2008, the AUC's Rule 010 came into effect, establishing a process that allows retailers to retrieve historic usage and billing information for customers after receiving their consent (AUC n.d.-g).
- In 2010, the AUC updated the minimum performance standards that electric and gas distribution utilities must meet for billing and meter reading (AUC n.d.-e).
- The AUC continues to work on improvements to the Settlement System Code, which translates cumulative meter readings from specific sites into estimated hourly loads. This translation determines the energy portion of bills. (For details about this process, see Chapter 4.) The most recent changes to the System Settlement Code were implemented in early 2012 (AUC 2011d).

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[8] Dr. Stephen Littlechild (former Director General of Energy Supply, United Kingdom) in discussions with the Retail Market Review Committee.

A number of important areas still need to be addressed:

- The standard data interface between retailers and distribution system operators is not completely consistent in its application. Retailers must still use subtly different data interfaces with various distribution utilities.
- The accuracy and timeliness of final load settlement calculations must be improved. The Alberta Utilities Commission has succeeded in reducing the lag in most aspects of data certainty from seven months to four, but that is still a sizable delay and it increases retailers' risks and working capital requirements.
- Performance standards for metering accuracy by distribution system owners are still weak, and there are no defined penalties for excessive error rates or incentives for reduced error rates. However, it is the retailer that gets blamed by customers if there are errors in billing.
- Different distribution utilities use different disconnection and de-enrolment practices. Some distribution system owners refuse to process disconnection requests from retailers, but routinely grant them to RRO providers (McFetridge, 2012). This gives RRO providers an advantage in collecting past-due bills, since cutting service off provides greater leverage. Disconnection practices fall under the jurisdiction of the Alberta Utilities Commission, which has been reviewing the issues and working to standardize the treatment of customers who are disconnected for nonpayment.

DE-ENROLMENT AND DISCONNECTION DEFINED.

Enrolment and de-enrolment are industry terms for switching a site ID from one retail provider to another.

Customers who fail to pay their power bills are de-enrolled when their retail electricity providers determine they will no longer provide service to those customers De-enrolled customers are automatically switched to the RRO provider for their service area. Retailers must give 10 days' notice to customers they intend to de-enrol. This gives customers time to settle their bill or to find a new retailer before they are switched to the RRO provider.

Currently, there is no standard way to correct a mistake made by a distribution utility that has de-enrolled the wrong customer or enrolled a customer who is switching with the wrong retailer. Although site ID switches are controlled by the utilities, retailers are left to resolve the problems caused by such errors.

- Service Alberta rules for how contracts are cancelled are inconsistent. Different rules apply for contracts initiated through door-to-door marketing versus telephone marketing, Internet marketing or kiosk sales. In its presentation to the Retail Market Review Committee, Service Alberta indicated that rules were set on an ad hoc basis as different marketing channels came into use. These rules should now be standardized.

Defining and implementing standard codes and practices will require resources. In the long run, however, the existence of standards will greatly reduce the cost of entry for new retailers. This will support competition and increase consumers' access to choice.

Prudential and Security Requirements

To operate in Alberta, retail electricity providers must post security deposits with a number of agencies. The size of these deposits and the conditions of payment can pose barriers to entry.

Over the course of the Retail Market Review Committee's consultations, industry stakeholders raised two issues with regard to prudential and security requirements. First, they are set too high relative to the actual risk of default and nonpayment. Second, there are wide discrepancies in the terms and conditions of required deposits across service areas.

AESO Financial Security Requirements

Under the *Distribution Tariff Regulation*, the Alberta Electric System Operator has discretion in setting financial security amounts that retailers must put up. Security amounts are currently based on the forecast pool price. If the forecast pool price doubles, so does the required security.

The Alberta Utilities Commission believes the current rules for security amounts make it difficult for smaller firms with less access to capital to act as retailers. The inability of small firms to participate directly in the wholesale market "...limit[s] their role to that of an agent or broker" (AUC 2012a, p. 18).

Over the course of the Retail Market Review Committee's consultations, industry stakeholders also expressed concern about the current security deposit requirements. Direct Energy noted that tying the security deposit to the pool price does not accurately reflect how risks vary by the size of the retailer (Direct Energy 2012c). UtilityNet noted that the calculation of the deposit could be improved, but cited recent positive changes implemented by the AESO to allow weekly prepayment (Utilitynet 2012a).

The AESO advised the committee that it has been working to revise its security deposit requirements to reflect the size of the retailer in question.

Service Alberta licence and bond fees

Service Alberta licence and bond fees are paid by retail electricity providers, but not by RRO providers.

Service Alberta sets a security bond of up to $1 million for retail electricity providers. By comparison, the required security bond for natural gas retailers is only $250,000.

In its presentation to the Retail Market Review Committee, Service Alberta noted that it now believes a $ 1 million requirement is too high. Half this amount would be more reasonable. Service Alberta also noted that although the amount of the required deposit can be lowered or raised at the ministry's discretion, this does not appear to be common knowledge.

DIFFERENT RULES FOR REAS

Regulations have exempted rural electrification associations from some prudential requirements. The RRO Regulation, for example, exempts REAs from the Alberta Electric System Operator's normal determination of whether a wholesale market participant should have access to unsecured credit limits. REAs are also exempt from Service Alberta's retail licensing and security deposit requirements.

Distribution utility prudential requirements

Distribution utilities flow their transmission and distribution costs through to retailers, and require that retailers put up security deposits to cover those costs. As shown in Table 12, there are wide discrepancies in the terms and condition of payment across service areas. The number of days within which retailers must pay their invoices varies from a low of seven days (for Epcor) to a high of 25 days (for Enmax). The number of days used to calculate security deposit requirements ranges from 45 to 75.

The *Distribution Tariff Regulation* allows utilities leeway in setting retailers' payment terms. Retailers who presented to the Retail Market Review Committee suggested that standardization was desirable, and that the Alberta Utilities Commission was best suited to take on this task. Epcor concurred that it might be desirable for the AUC to oversee the standardization process. This would allow flexibility in setting terms appropriate both for specific retailers and for distribution wire owners (Epcor 2012b). In its presentation to the Retail Market Review Committee, the AUC noted that the *Distribution Tariff Regulation* would need to be amended to give the commission jurisdiction over this issue.

Other changes to reduce the barriers posed by prudential requirements were also proposed. For example, Epcor pointed out that reducing the length of the invoice period allowed them to charge lower security deposits.

Table 12. Variance in prudential requirements

Distributor	# of Days to Pay Invoice	# of Days of Security
ATCO Gas	15	65
ATCO Electric	15	45
AltaGas	21	75
ENMAX	25	75
EPCOR	7	34
Fortis	10	60
Lethbridge	14	75
AESO	7	60

Source: Direct Energy, "Retail Market Review: Request for Further Information," June 15, 2012

At the Retail Market Review Committee's request, Direct Energy provided data comparing overall prudential requirements in Alberta with those required in Texas. Alberta's prudential requirements are $125 per site—53% higher than Texas, at $81 per site. Given this discrepancy, it would be worthwhile to explore why this difference exists.

Unequal Access to Marketing Channels

Billing envelopes provide retailers with a regular means of contacting customers and a vehicle for marketing products and services. The Code of Conduct governing relations between distribution utilities and retail affiliates was intended to prevent retail affiliates from having free and/or preferential access to this marketing channel over other competitors, but something has apparently been lost in the translation of legislation and principles to practice.

Both Enmax and Direct Energy are using RRO bills to market retail services, and are refusing to allow other retailers the same access. The Alberta Utilities Commission believes the Code of Conduct provides no authority for the commission to intervene in this matter, or to require that other retailers also be allowed to include advertisements of their services with RRO bills.

Bill Nonpayment

Customer bills include both energy charges owed to the retailer and non-energy charges owed to transmission and distribution wire owners. Transmission and distribution charges can be half of the bill. But if customers don't pay their bills, the retailer is on the hook for both sets of charges. This was raised as a barrier issue, but it could simply be considered a normal cost of doing business. In other retail businesses, it is typical for the retailer to incur all the costs of providing a good or service and to be responsible for nonpayment.

Barriers to Growth and Competitiveness

System Data Processes

The retail market infrastructure is entirely electronic. At every level of the system, data is collected and processed to provide retail electricity providers with the information they need to create customer bills. Data collection and processing is a complex matter that involves numerous parties and data transfers. A mistake by any party—in reading a meter, identifying which customer is with which retailer or calculating the total consumption in a service area—creates errors that propagate through the whole system.

The Alberta Utilities Commission and the Alberta Electric System Operator have developed the Tariff Billing Code and other standards for ensuring accuracy, correcting mistakes and speeding up the calculation processes. However, there is considerable room for improvement. Not all distribution system owners are required to meet existing quality standards - rural electrification associations and small municipalities are exempt. The data processes as a whole are unique to Alberta, and differences in the way each distribution utility passes information to retailers persist. For retailers with customers in different service areas, the lack of standardization raises the cost of doing business, since each service area requires a different data interface. Addressing these and legacy issues that date from the days of a vertically integrated electricity system would make it easier and cheaper for new retail electricity providers to enter Alberta.

Suggested improvements and a proposed timeline for implementing data system improvements are detailed on www.rmrc.ca. The Retail Market Review Committee believes implementing the recommended changes could take two to four years.

Correcting wrong enrolments

Customers are identified in the system by a unique site identification number (ID). Site IDs are gathered in a database that indicates where the customer's meter is located and what electricity provider the customer gets service from. When a customer changes to a new retail electricity service provider, the database must be updated.

When data entry mistakes happen, the wrong customer can be assigned to the new retailer. (This kind of mistake is usually not noticed until that customer gets his or her next bill.) Such errors can be fixed, but current processes are cumbersome, impose unnecessary costs on retailers and create customer relation problems for the retailer whose customer was mistakenly switched.

Issues related to the Settlement System Code

Most small customers in Alberta have meters that only keep track of how much electricity they consume over time. Distribution system owners read meters periodically to determine how much total electricity a customer has used. As explained in Chapter 3 (see p.49), these total readings must be translated into estimates of how much energy the customer used in every hour of the billing period. This is simple in concept, but enormously complicated in practice. For example, not all meters are read at the same time, so sometimes calculations involve a mix of actual and estimated measurements. In addition, there will also always be a difference between the total energy generated and the sum of all of the recorded meter readings. This happens because unavoidable physical line losses occur between the point where electricity is generated and the point where it is consumed. System-level calculations allocate "unaccounted-for" electricity (electricity line losses) across customers.

The Settlement System Code governs the collection, manipulation and transfer of all the data needed to assign hourly usage estimates to customers. The code was put in place over a decade ago. It has a number of generally recognized flaws, including the absence of unique record identifiers and the attendant inability to support audit trails. Several other code-related issues still need to be addressed:

- Customer meter reading accuracy. Retailers cannot fix incorrect meter readings, nor can they enter customers' premises to obtain correct readings. Retailers can only offer aggrieved customers their sympathy, and ask the distribution system owner to correct the mistake. The Alberta Utilities Commission requires each distribution system owner to file quarterly reports on meter reading accuracy. However, there are no performance-driven rewards or penalties.
- Transmission-level metering accuracy. Metering is done at the transmission system level in order to determine the total energy delivered to a settlement zone, and calculate factors such as unaccounted-for energy. This is important because errors in transmission-level metering affect the charges payable by every customer in a settlement zone, which is generally the entire utility service area. Again, there are no specified standards of performance, nor are there any performance-driven penalties or rewards.

- Enabling retailers to verify invoices from the Alberta Electric System Operator. Retailers who want to reconcile their hourly AESO charges to customer meter readings face a daunting, capital-intensive task that requires the development of unique, Alberta information system specific software. The AESO is responsible for identifying and reporting material errors. The Alberta Utilities Commission could work with all involved parties to create a standardized verification process and strengthen the AESO's role in ensuring data accuracy.

The Alberta Utilities Commission and the Alberta Electric System Operator have done considerable work on a number of system settlement code-related issues. These have been important steps, but more remains to be done. The Retail Market Review Committee suggests that the Alberta Utilities Commission should have clear authority to pursue improvements that will improve and standardize system settlement practices across the province.

Issues related to the Tariff Billing Code

The Tariff Billing Code governs how distribution and transmission charges are calculated and flowed through to retailers. The code came into effect in 2006, and although its design reflects lessons learned from the development of the Settlement System Code, it remains a work in progress. Nearly 100 pages of documentation appended to the code detail the many inconsistent utility-specific processes still in use in Alberta. Upgrading the Tariff Billing Code to a single, uniform set of practices will reduce a significant barrier to the continued growth and development of the retail market. The Retail Market Review Committee suggests that the policy guidelines supporting the standardization of tariff billing practices across the province would facilitate retail market development.

Barriers to Consumer Switching

Consumer Confidence

Access to web-based tools that allow rate and company comparisons

The Retail Market Review Committee's consumer survey found most households in Alberta (85%) are aware they have choices about who they buy electricity from, but almost 40% said they did not have enough information to determine what offers would be best for them. More than half (56%) said they would need more information about prices, bill components and total costs to make an informed decision, while 22% wanted more information about company reputations.

Alberta currently has websites that list suppliers and details about current offers, but none that give customers tools to allow them to make meaningful comparisons of how their bills would change if they switched from one offer to another.[9] The availability of such tools has been important in other jurisdictions, because they give consumers the information they need to be confident about their decisions regarding which plan works best for them.

The following list cites examples of tools available in other countries. Alberta could consider similar models.

- Texas Power to Choose website, www.powertochoose.com allows price and plan comparisons.
- Norway's Competition Authority, www.konkurransetilsynet.no/en/Electricity-prices/Check-power-prices/
- UK Power, www.ukpower.co.uk/ (The website includes a tool for energy price comparisons.)

Further discussion of online information for consumers is included in Chapter 7. See p. 131.

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[9] For an overview of choices, see the Utilities Consumer Advocate website at ucahelps.alberta.ca/choices.aspx. For a tool that allows customers to see what retailers and plans are available to them according to where they live, see the Electricity Shop www.electricityshop.net/.

Concerns about contracts

In the Retail Market Review Committee's consumer survey, 59% of households cited being "locked into a contract" as a major concern about switching.

Many customers do not trust retail electricity providers. This is a result of early, negative experiences with companies that locked customers into five-year agreements that offered higher-than-market prices and onerous exit fees.

Although retailers have reformed their ways since then, consumers may be unaware of that. Complaints about electricity marketing have dropped steadily in recent years. Two factors account for this drop - the marketing Service Alberta and the Utilities Consumer Advocate have done and the decline in door-to-door sales. In its presentation to the Retail Market Review Committee, Service Alberta reported having received 137 complaints about natural gas marketing since 2007. Only 64 complaints about electricity marketing were received over the same period. Service Alberta now gets about one complaint a month about electricity marketers (Service Alberta 2012).

Service Alberta's requirements for how electricity contracts are presented are much more onerous than its requirements for natural gas contracts, cellphone contracts or contracts for other goods and services. Service Alberta now feels that the mandatory warning and disclosure statements on electricity contracts might be unnecessarily confusing and alarming to customers. This may be a barrier to switching. The ministry is now considering changes to bring the standards for electricity contracts in line with the standards it sets for other types of contracts.

Service Alberta rules about how different types of electricity contracts are implemented may be another barrier to switching. Rules about contract cancellation were developed on an ad hoc basis as electricity retailers began using new marketing channels. The initial rules assumed sales would be door-to-door, and Service Alberta mandated a 10-day cooling off period for cancellation without penalty. Subsequently, retailers contacted the ministry to request permission to contact customers by telephone, offering to give customers who signed up a 60-day cooling-off period. Customers who sign up over the Internet or at a kiosk have slightly different cancellation terms. The inconsistency is confusing to customers.

In its presentation to the Committee, Service Alberta indicated that the ministry intended to address both of these issues in forthcoming regulatory changes.

Co-branding

Unclear separation of physical delivery and retail service

A brand provides an efficient shorthand for consumers to understand what they are buying. In the retail electricity industry, brand loyalty might be related to a sense of corporate involvement in the community, efficient service, convenient service options, polite or patient customer call centre personnel, green power, a commitment to sustainable business practices, or simply low power costs. Consumers are free to determine what values they prefer, what price-value tradeoffs they will make and what value they assign to brand loyalty.

There is significant opportunity for customer confusion when a market is restructured. Residential consumers cannot be expected to understand how a market is organized, or the relationships between generation companies, power delivery companies and retail electricity providers. After a century of vertically integrated utility service, it is natural that people might be confused about the ability of different retailers to sell "different electricity" across the same wires. It is normal that some consumers might confuse the electricity delivery utility (wires service provider) with the retail provider, or attribute greater value to a company that shares a name or brand with the distribution utility. The same can be said of an "RRO provider" that shares a name or logo with a retailer. Consumers perceive the RRO provider as a company the government trusts to provide service. Consumers are more inclined to trust companies they think their government trusts, and to transfer this trust to those companies' affiliates.

In the current environment, a significant portion of the small consumer market is easily confused about the retailing of electricity and the reliability of power delivery. For example, 52% of consumers in the Retail Market Review Committee's survey said they were concerned they would get less reliable service if they switched to a new retail provider. This should not be a concern, and likely would not be a concern if customers understood that the physical delivery of power by their distribution utility is quite separate from the issue of who calculates their bill.

The Retail Market Review Committee believes consumers' concerns that switching could hamper the quality of their electricity services arises from confusion about the difference between the retail function and the physical delivery of power by distribution system owners. This confusion is aided and abetted by affiliated retailers using names that are closely related to the names of the distribution company.

Providing certain companies with a customer relationship through the RRO is a privilege these companies will use to their advantage to establish themselves or their affiliates as the retail electricity provider for those customers. Providing utilities with a customer relationship through the provision of monopoly wires services is also a privilege. Neither trust—utility monopoly wires service nor RRO service—should be used to leverage customer brand loyalty in a manner that puts other market participants at a disadvantage. For this reason, the Retail Market Review Committee believes that no competitive retail company should be allowed to use the same name, logo or brand as a distribution utility or an RRO provider. Companies that share names, logos or brands should be given 12 months to comply with this provision.

Location-based Barriers

All Albertans must have access to choice.

Choice is a tenet of the *Electric Utilities Act*, which declares (in Section 110) that "a customer has the right to obtain electricity services from a retailer."

Tariff Billing Code compliance

Many rural electrification associations have not yet upgraded to meet the requirements of the Alberta Utilities Commission's Tariff Billing Code, which sets standards for how usage data is transmitted from an REA to a retailer. This makes it significantly more expensive for a retail electricity provider to conduct business with an REA member, since the retailer must adapt to a one-off data-transfer system in order to provide a bill.[10]

Like REAs, small municipalities are also not required to comply with the Tariff Billing Code. The Alberta Utilities Commission believes that, for all intents and purposes, the exemption for municipalities means residents of these municipalities are prevented from exercising choice (AUC 2012a). As with the REAs, there are not enough customers in smaller municipalities to make it worthwhile for a retailer to develop a special billing system for one municipality. The prudential security requirements set by distribution utilities in smaller communities may also be a prohibitive barrier. Fixed costs must be spread over a small number of customers.

Gas co-ops and rural electrification associations

Rural gas co-ops have a monopoly mandate to serve their members. This prevents REA members from taking advantage of dual-fuel (combined electricity and natural gas) agreements that offer discounts over stand-alone contracts.

Over the course of the Retail Market Review Committee's consultations, some stakeholders suggested the members of rural electrification associations should determine whether their directors should change policies to increase members' access to non-REA electricity providers. The committee was also made aware of recent actions - by some REAs - that seem designed to prevent choice and lock their members in. Given these developments, the committee believes all REAs should be required to comply with the Tariff Billing Code and with any future changes to the Alberta Utilities Commission's Rule 21 regarding the System Settlement Code.

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[10] Some REAs still keep paper records or use Excel spreadsheets, for instance.

THE LAW IS NOT CLEAR.

There is some disagreement about whether REAs and small municipalities are subject to the Tariff Billing Code.

Sections 129(1) and 129(2) of the *Electric Utilities Act* empower the Alberta Utilities Commission to make rules regarding the service standards of electric utilities and to ensure compliance. "Service standards" are broadly defined, and include rules like the Tariff Billing Code (*Electric Utilities Act*, p. 77). The AUC believes it has no jurisdiction over REAs and small municipalities because they are only distribution wire owners, not "electric utilities" as defined in the act.

On the other hand, the Alberta Department of Energy believes section 105(1)(n) of the *Electric Utilities Act* does give the AUC jurisdiction. That section specifically gives the AUC the power to make rules relating to billing, billing services, and "...process, procedures and standards for transfer of data relating to distribution tariffs" for distribution systems that are not electric utilities (*Electric Utilities Act*, p. 77).

The Market Surveillance Administrator concurs that the law is not clear, citing overlapping and unclear regulations.

Overall, there appears to be reluctance for any agency to impose government policy on REAs (as self-governing cooperatives) or on municipal authorities without explicit and clear direction.

REA rules

A few rural electrification associations are locking their members into perpetual agreements in which members are renewed automatically, but must give four years notice to switch (Alberta Agriculture and Rural Development, 2012).

Some REAs appear to be artificially suppressing the volatility of the RRO rate they offer. Ironically, these REAs have already adopted one recommendation of the Retail Market Review Committee, that cooperatives be allowed to determine a default rate themselves. (Under current legislation, it is illegal for cooperatives to do so.)

RRO Eligibility

Eligibility for the RRO (Alberta's default rate) is currently defined under the *Energy Marketing and Residential Heat Sub-metering Regulation.* In its presentation to the Retail Market Review Committee, Service Alberta suggested the electricity consumption limit for RRO eligibility could be lowered from the current cut-off of 250 megawatt hours per year.

At the request of the committee, FortisAlberta supplied a detailed breakdown showing the distribution of usage by customer class.

Although customer usage in the Fortis service area is different from usage rates in urban areas, the numbers still provide valuable information on how changing the RRO eligibility level would affect different kinds of customers. Residential customers in urban areas use an average of 450 kilowatt hours per month. The provincial average is higher, at around 600 kilowatt hours per month. (The lower average consumption in urban areas is because more people live in apartments.) Therefore, the percentage of residential households, province-wide, that would be affected by changes in RRO eligibility is overstated by the FortisAlberta numbers.

Given the data in Table 13, the Retail Market Review Committee suggests that, if Alberta retains a default rate, only customers who use less than 50 megawatt hours of electricity per year should be eligible. This cut-off captures all but a fraction of consumers who are currently eligible for the rate. The committee also recommends that only residential consumers should be eligible.

Farms that consume more than 50 megawatt hours of electricity per year are agribusinesses. As the Alberta Federation of Rural Electrification Associations noted in its presentation to the committee, farms of this size are accustomed to dealing with variable input costs and are capable of dealing with electricity in the same manner.

Table 13. Electricity usage (in megawatt hours per year) by customers in the FortisAlberta service territory

Rate Type	Percent of customers who would be ineligible at a consumption limit of		
	<250 MWh/year	<100MWh/year	<50MWh/year
Residential	0.0%	0.0%	0.1%
Farm	0.4%	1.4%	3.6%
Irrigation	0.5%	2.1%	7.6%
Small General	0.4%	5.1%	14.7%
Oil and Gas	3.3%	15.4%	33.5%
General	62.7%	86.0%	92.7%

Source: FortisAlberta, at the request of the Retail Market Review Committee

Chapter 7

What Do Consumers Need?

Choices, Resources and Consumer Protection

The Committee's Assignment

Sections 13 and 14 of Ministerial Order 32/2012 directed the Retail Market Review Committee to provide an opinion on the following issues:

- how best to represent consumers' interests (Section 13e-v)
- whether changes are needed to ensure customers get appropriate levels of service quality (Section 14)
- the definition of vulnerable Albertans and whether they have appropriate protection (Section 13e-iv)
- the determination and approval of non-energy charges for transmission and distribution service, billing and administration costs, and rate riders (Section 13f)

The committee's analyses with regard to these issues are presented in this chapter. Chapter sections discuss the following topics:

- providing better choices for consumers, including responding to consumer preferences
- providing better information and resources for consumers, including improving education and increasing consumer confidence
- representing consumers' interests in both the regulated sectors and the retail sectors of the market by empowering the Utilities Consumer Advocate and other agencies (This discussion includes the committee's assessment of the current freeze on non-energy charges)
- giving both the Utilities Consumer Advocate and the Market Surveillance Administrator clear mandates to promote and pursue further development of a competitive retail market
- protecting vulnerable Albertans

Providing Better Choices for Consumers

Responding to Consumer Preferences

The process of developing a competitive retail electricity market is fundamentally the process of satisfying different consumer preferences. Electricity consumers are unique individuals with unique needs and preferences. Like all consumers, they shape and refine these needs and preferences through the lens of past experience.

For a century, electric utilities offered "plain vanilla" electricity rates. Residential consumers are familiar with monthly charges in cents per kilowatt hour, and are accustomed to thinking about electricity as a commodity rather than a set of customized services. As the market develops and the number and types of retail electricity offerings grow, different customer interests will emerge and specialized retailers will develop to serve different customer groups with different electricity preferences.

Different Preferences Defined

One value of a competitive residential electricity market is to allow different people to pay a premium for services they prefer, and for others to save money if they prefer bare-bones service. In the regulated world, the structure of electricity rates places all residential consumers into one or a few groups. In a competitive market, on the other hand, consumers drive the market. The structure of electricity rates allows for costs to be borne by the people who prefer the services.

Consider the fact that different people manage risk in different ways, and different things give different individuals a sense of control. One person may want to lock in a price for a year-long contract, while another may be completely comfortable checking the price each month. Another person may avoid risk altogether, preferring predictability over the "hassle factor" of shopping. There is no right or wrong approach: it is simply a matter of individual preference. Recognizing that people's preferences are different, retailers in electricity markets offer fixed-price products to those who want to manage risk (and are willing to pay the risk premium) and month-to-month pricing products for those who prefer to shop around.

DIFFERENT PEOPLE VALUE DIFFERENT THINGS.

Two people may appear similar. They may be the same age, have the same number of children, live in the same size of home and share the same career. Nonetheless, they may define "lowest-cost residential electricity" in very different ways. Each one wants "the best deal;" neither agrees on what that means.

Person A may lock in 10 cents per kilowatt for two years, while Person B may sign up for eight cents per kilowatt hour on a month-to-month contract. Is there a basis for determining who got the best deal?

Neither A nor B knows the future, but both are well informed about their own risk preference. A year down the road, A and B can compare their 24 electric bills. However, even then, the full cost of electric service will be elusive. Did A spend time and money investing in energy efficiency to lower the bill? Did B spend time monitoring, managing or worrying about month-to-month prices?

All we know for sure is the contracts A and B chose honoured the individual preferences of each consumer. Choice of contract length results in economically efficient behaviour because it aligns consumer risk preferences with market stakeholders—retail electricity providers.

In addition to preferences for managing risk, consumers have preferences for other electricity-related features, including those related to the environment ("green power"), the level of customer services preferred (call centres, or paper versus electronic bills), flexibility regarding time-of-use (seasonal rates and time-of-day pricing) and in-home gadgets and controls (such as programmable thermostats). Consumers also have preferences regarding how and where they sign up for a product. Some people make purchasing decisions that are strongly influenced by affinity groups. For example, they may sign up with others in a club or a church group. Others may sign up to earn social benefits, such as points or cash donated to a service organization or non-profit fund.

Different Products for Different People

Successful retail electricity markets have developed different categories of products to satisfy the different preferences of residential consumers. Product offerings include the following, each of which targets a different segment of the population:

- products with prices that vary from month to month
- fixed-price products with terms of 3, 6, 9, 12 or 24 months
- green products: premium prices for power from wind generators or solar photovoltaics
- prepaid energy products (that provide a cellphone text every day to report 24-hour usage and current account balance)
- products that include on-site maintenance services for heating and cooling equipment
- special time-of-use products ("Free Saturdays" are offered in Pennsylvania and "Free Nights" are offered in Texas.)
- products with in-home energy management devices or special thermostats
- products with conveniences related to billing, payment or customer care
- products with special discounts or promotions

Product Choices in Alberta

Alberta has already seen the development of fixed-price products of one, two, three and five years; floating-price products that promise to apply the wholesale pool price plus an adder; green products containing 60% or 100% green power content; and products that combine electricity and natural gas services on one bill. The RRO default service provides forward-month electricity pricing, and no competitive supplier currently offers a similarly priced product. The experiences of other jurisdictions suggest that, if the RRO is eliminated, new products using month-to-month pricing will emerge. It also appears there is room in the market for three- and six-month fixed price contracts to serve a segment of the population that is willing to try out a company, but is not willing to commit for one to five years.

For a list of Alberta's electricity product choices, see Table 9 on p. 102.

Prepaid Electricity: A New Business Approach

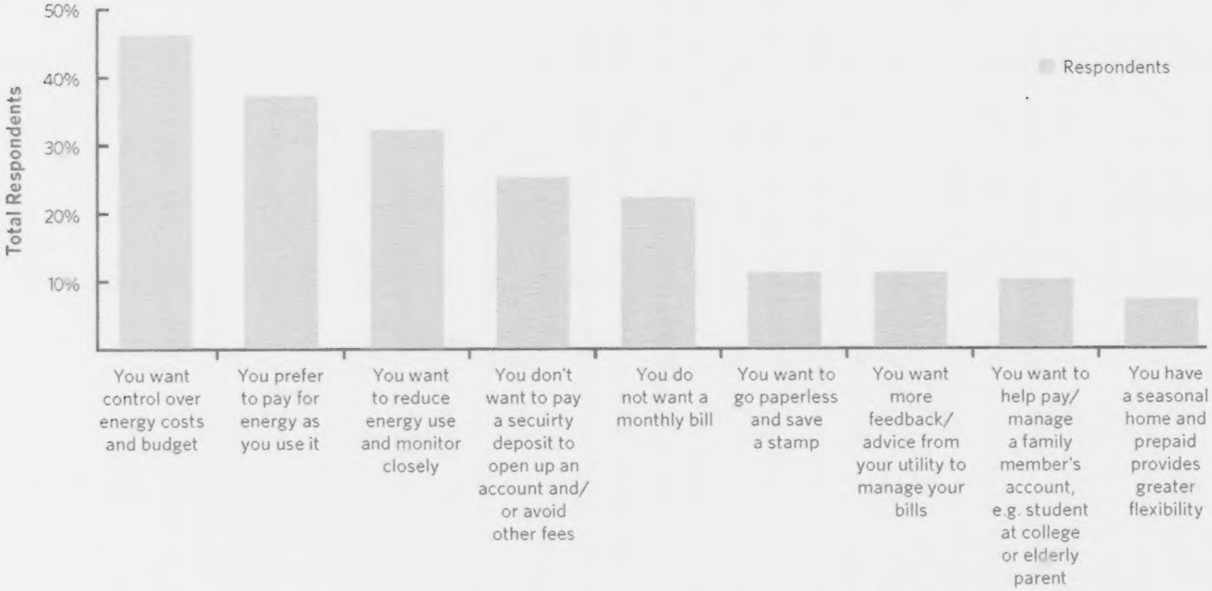
Enabling prepayment and other transactions

After a full century of "one-size-fits-all" electricity rates and regulated service agreements, there is a tendency to take certain aspects of electric service as givens and to treat them as unchangeable. Here are two examples of such givens that are now outdated in many jurisdictions:

- Electricity is a product that must be continuously metered and read monthly.
- Customers always receive a monthly electric bill for their electricity service.

Figure 39.

Top reasons that people would select prepaid electric service



Source: EcoAlign, EcoPinion Consumer Survey No. 14: Prepay Energy's Pathway to Consumer Satisfaction and Benefits. February 2012. Available at www.ecoalign.com or www.defgllc.com. Question 10: Which of the following are the top two reasons that you and your family would choose or have chosen to enroll in a prepaid electric service plan?

There is a tendency in the electricity industry to speak about the uniqueness of the commodity and the industry—to focus on the instantaneous nature of electricity and the grid, the difficulty in economically storing electricity, the importance of electricity to modern life, and the special safety and reliability requirements. Of course, almost everything produced by modern society is complex and unique. But everything is unique in different ways! There is also a resistance in the electricity industry to recognize that, despite the uniqueness, a few aspects of the industry are common. Provision of these common products and services parallels other industries.

Areas of commonality are open to immediate, rapid change as new approaches are applied to the electricity industry. For example, the electricity industry could benefit from payment and billing innovations that have already occurred in other industries. Transactions such as prepaid energy are one such innovation that could be widely applied to the electricity industry.

Prepayment for goods and services is clearly a mainstream concept. Consumers are used to prepaying for gift cards, cellphone service, airline tickets, entertainment and special events, and more. They have a great deal of experience with selecting products and services in advance, paying in advance and accounting for the use of the product or service in the future. Concertgoers walk up to the "will call" window and show a driver's license to pick up tickets. Cellphone minutes are metered and recorded in real time, and deducted from a prepaid credit. It is a simple leap to establish such systems for the prepayment of electricity and for the deduction of kilowatt hours of credit from an account.

Prepayment eliminates the need for a deposit to initiate utility service, and thus can be useful for consumers who have a difficult time meeting deposit requirements. College students and people who change living locations may be interested in prepaid energy because it simplifies their lives. (There is no need to provide a new address to return the deposit.) People with a second home may prefer to pay in advance and not have to think about an extra bill each month.

Work on prepaid energy has identified convenience, control and management as driving factors in decisions to select this option. Prepayment is also a platform for other interactions with consumers, including energy management. Recent prepaid electricity offerings in Texas provide customers with a daily text message showing usage and account balance. Acccess to daily information changes the level of consumer awareness about day-to-day electricity consumption and increases the consumer's ability to manage energy usage. The Salt River Project in Arizona has demonstrated that—through greater awareness and simple consumer education—customers on prepayment plans reduced their energy consumption by 12%. Compared to other energy efficiency programs, this level of energy conservation is admirable.

Prepaid electricity is one of a new range of services that require a more nuanced, segmented view of the marketplace and of consumer preferences. The "ratepayer" construct—where everyone is treated the same regardless of personal preferences—is going away. Transaction-based relationships are emerging in a new marketplace for energy services. Taking traditional interactions—including the monthly meter read and the monthly bill—and replacing them with new transactions, provides the utility, retailer and consumer greater control of the interaction.

Providing Better Information and Resources for Consumers

What Do Consumers Need to Know?

The Basics

To choose a retail electricity provider, consumers need to know:

- where to get information about their choices
- what factors to consider
- what tools to use to make cost comparisons
- what to look at in the fine print, including clauses about deposits, early-out provisions, penalties and price volatility

GIVING CONSUMERS THE INFO THEY NEED: AN EXAMPLE FROM TEXAS

The Texas Power to Choose website states:

Electric choice gives you options. You can choose an offer based on price, contract terms and other requirements, green/renewable options, or other factors important to you. This site can help you narrow down your choices and ask the right questions of each company so you can make an apples-to-apples comparison. (Public Utility Commission of Texas 2012)

The Gravy

Consumers *do not need* information about how the electric industry works to make informed choices about the electricity service or electric contract that is right for them. This is noteworthy.

All industries—and the electric industry is no exception—have interesting, complex dimensions that could fill a textbook. But consumers don't need to understand the inner workings of industries they rely on for essential goods and services. People rely on the health care industry without understanding medicine or drug research and development. They purchase food without detailed knowledge of farming or the food system or the trading of wheat futures. They rent or purchase homes without understanding what it takes to manufacture a nail.

What electricity consumers need to understand is the trade-offs involved in their electricity service choices. They can remain relatively uninformed about power plant operations, deferred accounting, billing codes, how a motor works or how a generator uses the laws of electromagnetism to produce electricity.

Billing Information

The Retail Market Review Committee's survey of consumers found that most Albertans understand their electricity bills, and most prefer to see a detailed breakdown of charges.

Only 14% of Albertans said they found their bill difficult to understand. Only 5% did not want to see a detailed breakdown of charges.

Experience in other jurisdictions suggests there is value in allowing retail electricity providers flexibility in how they choose to present billing information. The Retail Market Review Committee suggests that this option merits consideration—as long as providers include the billing detail specified in Section 4 of the *Billing Regulation*.

Electronic billing options that allow people to see as much or as little detail as they want might also be useful.

Designing an Education and Awareness Campaign

Over the past decade agencies have launched numerous education and awareness programs about Alberta's electricity industry, restructuring and retail choice. Although there is a clear need for education and awareness, efforts to date have not been coordinated. It is not clear that programs offered in the past focused on what retail customers really need or want to know.

Findings from the Retail Market Review Committee's Survey of Albertans

In May 2012, the Retail Market Review Committee conducted a survey of Alberta consumers. The survey identified key areas where Albertans need more and better information to support their decisions and choices of electricity service. It identified target audiences and key messages for education and awareness campaigns.

A summary of survey results is included in Chapter 5 of this report. The complete survey report is posted at www.rmrc.ca.

WHAT ALBERTA CONSUMERS KNOW ABOUT THEIR ELECTRICITY CHOICES

The Retail Market Review Committee's consumer survey found the following:

- **Most Albertans realize they have choice, but 40% say they do not understand how to compare and evaluate their options. This suggests that comparison tools would be useful. (See p. 131 for lessons learned from other jurisdictions.)**
- **In general, people believe having a choice is important. This suggests that people would value having information about available choices.**

Key messages

The Retail Market Review Committee's consumer survey indicates that education and awareness programs for electricity consumers should emphasize the following key message:

- Selling and delivering electricity are separate functions. Switching to a retail electricity provider does not affect the level of service or reliability a customer gets from its regulated distribution utility.
  - The survey showed 52 % of Albertans believe that switching to a retail electricity provider would affect the reliability of their energy delivery. Unfounded concerns that switching to a retail electricity provider would affect the reliability of service are a significant barrier to consumer choice and to the competitiveness of the retail electricity market.

Other key messages include the following:

- where to find trusted information about available choices
- how to find tools for comparing different products and service agreements
- a historical perspective on transmission and distribution infrastructure costs

- The survey found that 29% of Albertans were most concerned about transmission and distribution charges; only 8% said they were most concerned about energy charges. This suggests a need to explain the cost of large, lumpy infrastructure investments. Transmission and distribution capital assets require regular upgrading and ongoing maintenance. The Alberta Electric System Operator notes that Albertans rely on transmission infrastructure, lines, towers and substations that were largely built through the 1960s, 1970s and 1980s (AESO 2011d).

Priorities

Survey results showed 81% of Albertans believe choice is important. This suggests that providing information on choices and evaluation should be a priority in education and awareness programs.

An ongoing awareness campaign should focus on the following priorities:

- providing current and accurate information on service agreement options
- providing an online database of customer-assigned ratings of retail electricity providers

Target audiences

The Retail Market Review Committee's consumer survey and its consultations with industry experts indicate that education and awareness campaigns should target the following key audiences:

- low-income households
- caseworkers who work one-on-one with vulnerable Albertans
- customers with limited choice due to geographic location

> The Retail Market Review Committee's consumer survey identified lower income households outside of Calgary as the segment of Albertans most concerned about their electricity bills; 18% of customers in this segment also said they lacked the information to choose a retail electricity provider.

Targeted communication should be developed for the following specific groups:

- social program providers
- members of rural electrification associations
- seniors
- small municipal governments
- grassroots organizations such as the Alberta Urban Municipalities Association and the Alberta Association of Municipal Districts and Counties
- the Canadian Federation of Independent Business

Channels of communication

Survey results indicate that consumers get information across multiple channels, with the Internet being the most important. Direct mail, email, brochures and flyers, media advertisements and social media should also be considered.

Content and Focus

Consumers need tools that help them to understand and compare options. They need easy-to-access information on retail options and customizable, online calculators that help them estimate their bills under different service arrangements. They also need accessible information about power markets, including how far the markets have progressed in Alberta.

The Retail Market Review Committee's consumer survey showed Albertans are at least as concerned about the regulated non-energy charges on their bills as they are about energy charges. In light of this finding, the province, transmission owners, and the Alberta Electric System Operator should consider a joint message that gives people perspective on how infrastructure changes have happened historically and what they have cost.[1]

Consumers need more information on value-added products and services in Alberta's emerging energy services market. This is where the future lies, and where consumers will ultimately see the largest benefits from retail competition. Enmax has already started down this road with a program that enables small customers to install microgeneration systems. Spot Power's recently announced slate of programs offering different payment

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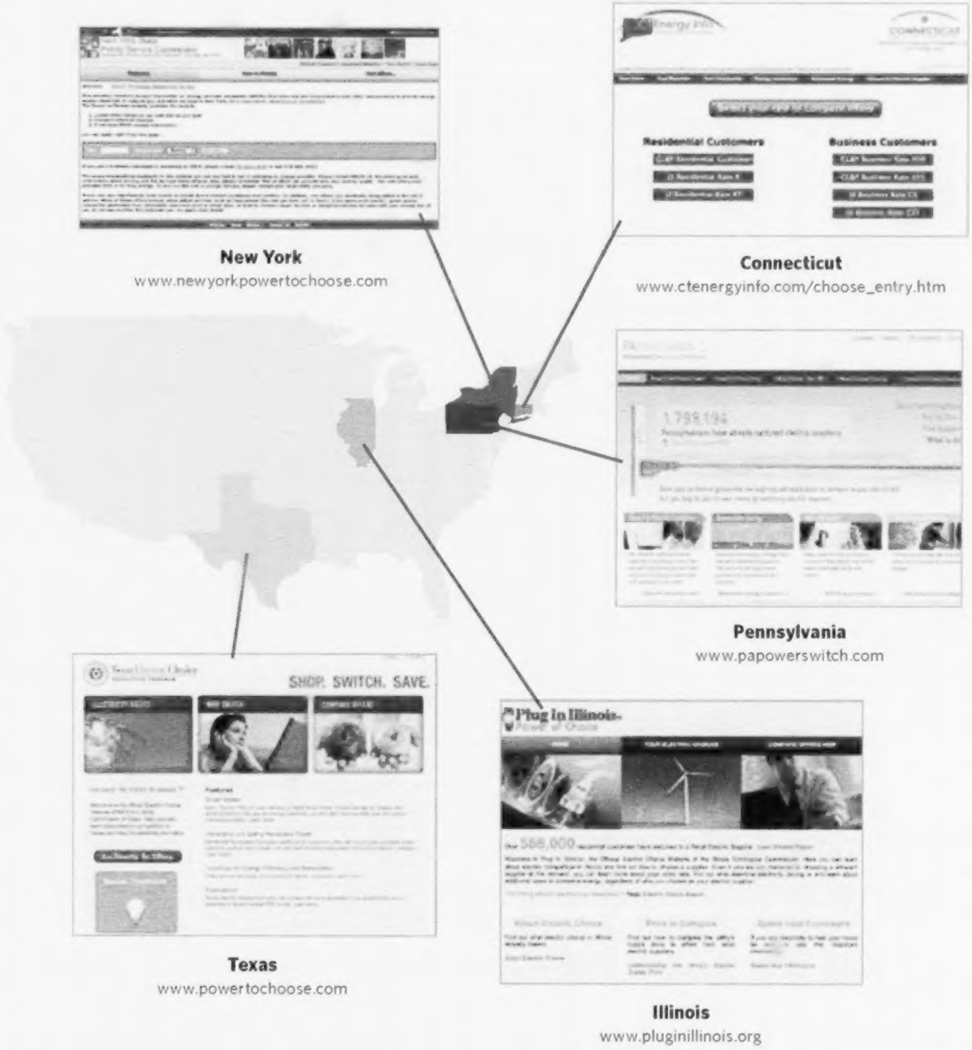
[1] Several stakeholders pointed out the success of the Joint Utility Safety Team program, which brought industry together to deliver a coordinated message on safety. In the case of retail electricity, however, a jointly delivered program from all relevant industry stakeholders and government organizations seems unlikely to be a good strategy. The issues are far more complicated, and such a group would include organizations with many different and conflicting objectives.

Figure 40.

U.S. states that administer a web portal to facilitate residential electricity price comparisons


New York
www.newyorkpowertochoose.com
Connecticut
www.ctenergyinfo.com/choose_entry.htm
Residential Customers
Business Customers
Pennsylvania
www.papowerswitch.com
SHOP. SWITCH. SAVE.
Texas
www.powertochoose.com
Plug In Illinois
Illinois
www.pluginillinois.org

options and special initiatives for green power and local energy efficiency initiatives also illustrates possibilities consumers might see as valuable and desirable. Most consumers still do not see how a competitive retail market enables such innovations, while regulation stifles them. It could be worthwhile to highlight such developments in Alberta, and to point to innovative changes in jurisdictions such as Norway, the U.K., New Zealand and Texas.

Costs

Stakeholders advised the Retail Market Review Committee that an appropriate amount to spend on consumer education and awareness generally ranged from $1 to $3 million a year leading up to any significant changes, with smaller amounts following that. Stakeholders' financing suggestions ranged from having education and awareness solely funded by reducing the Balancing Pool credits to RRO-eligible customers to no public funding at all. Supporters of the former approach argued that any education efforts only benefited RRO-eligible customers. Supporters of the latter argued that this is a marketing cost that should be borne entirely by retailers. Stakeholders in the middle felt a more robust retail market would have benefits that would accrue all around, and so the cost should be shared to some extent.

The Retail Market Review Committee agrees with the stakeholders in the middle and believes that education and awareness programs should be funded both publically and through contributions from retailers who, arguably, stand to gain from such efforts. The exact funding amount, its allocation, and sources should be determined by the Alberta Department of Energy in consultation with relevant agencies and stakeholders.

The Retail Market Review Committee's consumer survey found that Albertans get electricity-related information across multiple channels, with the Internet being the most important.

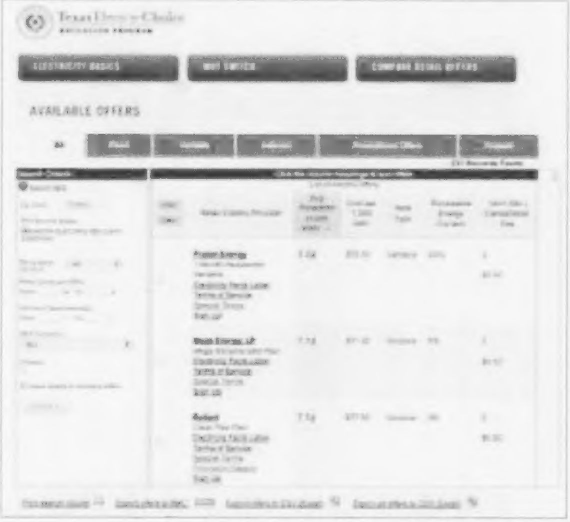
Online Information

Lessons from other jurisdictions

When North American retail electricity markets opened in the late 1990s, the Internet was young and online purchases were a novelty. By 2002, when Texas opened its retail market, there was enough known about the Internet to cause the Public Utility Commission to create a website, powertochoose.com, to facilitate retail electricity price comparisons. Today, a growing number of states offer online retail price comparisons of competitive offers.

Figure 41.

The Texas "Power to Choose" website with tabs to help consumers narrow the choices between fixed, variable, indexed, promotional offers and prepaid options.



www.powertochoose.com

In the U.S., a number of commercial websites supplement the consumer information offered on state-administered sites. Commercial websites may favour particular retailers by placing their offers at the top of the list, or they may exclude certain products altogether.

Consumer sophistication with respect to Internet shopping is increasing as the number and volume of products purchased online increases. No particular website may present all offers, but consumers have a sense of what each website can and cannot do.

In the early stages of electricity competition, there may be value in offering a government-administered website that gives consumers a sense of confidence about the offers they find there. There is an expense associated with this, and there must be rules that retailers must follow to give the website credibility.

A list of online resources is included in Appendix 4. Further discussion of online information for consumers is included in Chapter 6. See p. 114.

Online information sources in Alberta

Several Alberta agencies have websites that offer consumers useful information about retailers and retail offers. These include the Utilities Consumer Advocate, Service Alberta, the Alberta Department of Energy, the Alberta Electric System Operator, the Market Surveillance Administrator and UtilityNet. Some of these websites post information on current offers, others on available retailers. Social service programs such as Alberta Works and Assured Income for the Severely Handicapped (AISH) have information on resources and assistance they can provide with utility bills. Service Alberta has a searchable database for licensed marketers. UtilityNet has a searchable database for retailers and offers by municipality. The Alberta Electric System Operator's Powering Alberta website offers a wealth of information for consumers. The Electricity Shop website offers a database of retail electricity providers and plans in selected municipalities.

Online information for the future

Even now, there are many good web resources on Alberta's market, but most of these are not widely advertised. Many existing websites could be improved with little effort or cost. For example, the Utilities Consumer Advocates' website could be improved by featuring sites that offer choice-specific information[2] more prominently, and by including a page that describes social assistance programs and the levelized (equalized) billing option.

In the long run, the UCA might consider creating and maintaining a website entirely devoted to the retail market and customer choice. Norway's consumer agency website could serve as a model, but the model adopted in the U.K. should also be considered. In the U.K., privately owned consumer choice websites are provided by organizations sanctioned by the government as trustworthy sources. These sites give customers tools for comparing options and making online switches at no cost. They are financed through commissions from retailers when customers use the site to switch to those retailers.

An Alberta version of the Texas' Power to Choose" website and Norway's consumer agency website merit consideration. This would provide consumers with a gateway to information sources and customizable tools for easy comparisons.

WHAT THE SURVEY SHOWED

The Retail Market Review Committee's consumer survey showed a disconnect in people's desire for longer-term, fixed-price contracts and their willingness to pay the risk premium necessary to guarantee fixed prices. More than half of Alberta households (52%) said they would prefer a fixed annual price to one that varies monthly or quarterly, but only 13% said they were willing to pay a premium for it. Fifty per cent of households said they preferred the lowest average price even if that meant their bill varied every month. Given such disconnects, online comparison tools should give people historical information on how average prices for various contracts terms have varied over the years.

Survey respondents named being able to exit a service agreement without penalty and getting the lowest possible price as their top two priorities. Company reputation was also an important factor for 22% of those surveyed. This suggests that having information about actual product offers would help to alleviate consumers' concerns about being "locked in." A database that allowed customers to rank different retail electricity providers would likely be seen as valuable.

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[2] The Alberta Electric System Operator's www.poweringalberta.com and the Electricity Shop's website at www.electricityshop.net/ are two examples.

Representing Consumers' Interests

An Overview

Given that the electricity industry has regulated and unregulated sectors, the question of representing consumers' interests must be divided into two parts. In this Chapter, the terms "regulated" and "unregulated" differentiate between sectors where competitive entry by sellers is allowed (that is, wholesale and retail markets) and sectors where government gives a monopoly franchise to a single provider (that is, transmission and distribution networks).

Consumers and the Retail Market

In unregulated markets, consumers' interests are best protected by competition among firms to attract and keep customers. Competition gives strong incentives for firms to be efficient, keeping costs low so they can offer low prices, and to develop products and services that customers find attractive and valuable. Competition encourages innovation and dynamic responses to customers' needs and preferences, so the degree of competitiveness determines how well a market represents consumers' interests.

Consumers and the Regulated Sectors of the Electricity Industry

In regulated markets, government must take on the role of ensuring efficiency and customer satisfaction through regulation of prices and of the quality of products and services. It is very difficult to say how well regulation represents consumers' interests. There are many different measures, including regulatory costs, and the length of hearings and the rapidity of decisions.

Electricity transmission and distribution have remained regulated because having a single provider is the cheapest way to build and operate these networks. To accommodate this reality, the government divides the province into service areas and grants monopoly franchises in those areas. This makes it necessary to regulate rates since there are no market forces to otherwise control the price charged by a firm that has holds a monopoly franchise.

AUC Oversight of Regulated Sectors

For those aspects of the industry that remain regulated, stakeholders and expert organizations strongly agreed that the Alberta Utilities Commission is best positioned to represent consumers' interests in approving costs, associated rates and quality of service levels. The Retail Market Review Committee concurs with this view.

With regard to its charge to provide an opinion on the determination and approval of non-energy charges, billing and administration costs, and rate riders (Section 13f of Ministerial Order 32/2012), the committee defers to the judgment of the Alberta Utilities Commission. The committee does not believe it can or should comment on current regulatory processes used to determine distribution and transmission tariffs.

Consumer and Market Champions

The Need for Retail Market Champions

The wholesale market and the retail energy services markets are not natural monopolies, which is why they were opened to competition in 1996 and 2001, respectively. The wholesale and retail sectors of the industry remain subject to regulation, of course, but the type of regulation has changed. Now, these sectors are subject to the rules governing any market, such as prohibitions against deceptive marketing and practices that are illegal under competition law.

When the wholesale market opened to competition, new organizations were created to support it. An organization that became the Alberta Electric System Operator was launched to operate the wholesale market, and the Market Surveillance Administrator (MSA) was established to police it. The government charged both agencies with specific mandates to create a market that was "fair, efficient and openly competitive." Most stakeholders believe the wholesale market has developed well and that the MSA has been effective in promoting competition and efficiency in that market.

The retail market has not had the same level of institutional support as the wholesale market. No organization was created initially to oversee or promote its development, and the MSA was never given a specific mandate regarding retail except to enforce the code of conduct that governs relations between distribution utilities and affiliated retailers.

The Office of the Utilities Consumers Advocate was created in 2003 in response to concerns about the retail market. Like the MSA, the Utilities Consumer Advocate received no mandate to promote the development of a competitive and efficient retail market. Its role has been to:

- act as an information resource for electricity consumers
- field customer complaints and help customers with utility disputes (The UCA offers mediation services.)
- represent consumers' interests in regulatory hearings before the Alberta Utilities Commission and in policy discussions with the Alberta Department of Energy and related Government of Alberta agencies
- help ensure that vulnerable Albertans are aware of supports and assistance available to them
- educate and inform consumers about the choices they have in the retail market

These are all important functions, but none of them are the vibrant call to action that the *Fair, Efficient and Open Competition Regulation* gave to the wholesale market.

The Utilities Consumer Advocate

There is a clear need for an independent organization focused on promoting changes to encourage fair, efficient and open competition in the retail market. The Utilities Consumer Advocate is a natural candidate. The foundation of trust the UCA has built with consumers is an unparalleled asset. In addition, the UCA is an industry insider with a tremendous depth of knowledge. In regulatory proceedings, the UCA is a visible and energetic opponent of corporate excess and a passionate advocate for consumers. This is another source of brand equity, but one that has largely remained hidden behind hearing room doors.

The Utilities Consumer Advocate is currently housed within Service Alberta. However, the committee believes that no synergies are gained from this arrangement and that the UCA should be arms length from government—like the Alberta Utilities Commission or the Alberta Electric System Operator. It should have its own expert governance board made up of members at large who offer industry and governance experience. The board would provide vision and direction to the advocate and approve the budget of the office. This structure has worked well in other areas of the electricity industry, and it would work well for the UCA.

Currently, the UCA receives all of its funding from the Balancing Pool. This arrangement allows the UCA to initiate programs in a timely fashion rather than according to fixed financial cycles. In addition, the industry needs a sense of urgency, and an independent funding source can hasten the tempo of change.

An independent Office of the Utilities Consumer Advocate would continue to focus on programs and services Albertans need. These include:

- a mediation call centre that informs and supports consumer on a timely basis
- effective regulatory representation including collaborative presentations
- coordinated education and awareness programs, including strategic multimedia campaigns and a detailed, interactive website that gives Albertans reliable, relevant information about their electricity choices

The UCA would also need to take on new duties to actively promote changes to further the development of the retail market, going above and beyond their role today. This requires a different skill set than what is needed for regulatory intervention and mediating disputes. Care would have to be taken to separate these two functions, since enabling competition often requires moving away from regulatory intervention.

Under the Alberta Utilities Commission's Rule 022, Rules on Intervener Costs in Rate Proceedings, the UCA was effectively given the broad responsibility of representing all consumers at all times in all regulatory proceedings. Funding for nearly all other intervener groups was eliminated. The Retail Market Review Committee considers that Rule 022 has unduly restricted the diversity of views brought before the Commission, and respectfully requests that the Commission reconsider this matter.

The UCA should continue to represent Alberta consumers' broader interests in the regulatory process. In the interests of efficiency, the UCA could also coordinate joint interventions. However, individuals, organizations or associations that have a defined, accountable membership and are directly affected by a particular regulatory hearing should have resources made available to allow proper representation of their position in the public process. The Alberta Utilities Commission is master of its own processes. The AUC can weigh and assess each party's contributions and provide funding commensurate with the quality of the intervention.

The Market Surveillance Administrator

In its presentation to the Retail Market Review Committee, the Market Surveillance Administrator described its role in the retail market as having four aspects:

- enforcing the *Code of Conduct Regulation* and investigating anticompetitive behavior on the part of retail affiliates
- tracking retailer market shares and switching rates
- providing periodic reports on the state of the retail market
- monitoring the competitiveness of the RRO procurement and pricing process

Although the MSA has the power to monitor the retail market and make suggestions on how to improve it, the wholesale market has been its focus to date. It may be that the MSA lacks the resources needed to take as thorough an approach to retail as it has to wholesale. Also, given that retail markets are quite different from wholesale markets, the MSA may lack the skills and knowledge to evaluate them. For example, in its presentation to the committee, the MSA pointed out that while it monitors the RRO acquisition process, the organization has never questioned how the existence of the RRO affects the competitiveness of the retail market. The MSA believes co-branding is allowed by government policy. So as long as companies are not misinforming consumers, the MSA feels it has no role in addressing the issue.

The *Fair, Open and Competition Regulation* gives the MSA a standard by which to judge the functioning of the wholesale market. The Alberta Department of Energy has not provided a comparable policy statement that lays out principles for how the retail market should function. Hence there are no guidelines for the MSA, with the exception of the Code of Conduct governing relations with retail affiliates. In that area, the MSA has been active in ensuring compliance.

The Need for Institutional Support

The *Electric Utilities Act* and the Ministerial Order that governs the Retail Market Review Committee both speak to Alberta's desire to create a competitive retail market. Over the course of its consultations, the committee heard that it would be useful for the Alberta Department of Energy to define a specific set of objectives in the retail market that—like the *Fair, Efficient and Open Competition Regulation*—would give relevant organizations a clear mandate to develop retail competition. The agencies that could implement the necessary changes already exist and are capably staffed. All they need is the clarification of their mandate and the authority to deliver.

Protecting Vulnerable Albertans

Defining Vulnerable Albertans

The Retail Market Review Committee received definitions of who is a vulnerable Albertan.

Many stakeholders defined vulnerable Albertans as people who—for financial or other reasons—struggle to keep up with their monthly bills, including gas and power bills and bills for other household necessities. These are people who cannot pay and who need social support to manage, not people who simply choose not to pay.

Other stakeholders' definitions of vulnerable Albertans included farmers, people who have poor credit histories and do not qualify for retail service agreements[3], people who remain apathetic about understanding their electricity options and people who have difficulty accessing the information they need to make good purchasing decisions.

The general consensus among stakeholders was that vulnerable Albertans are low income and fixed income Albertans who have trouble coping with price volatility and cost increases, or who are unaware of or incapable of evaluating their options. Seniors, people with disabilities, people who depend on social assistance, students, new immigrants, transient workers, not-for-profit organizations and low-income families are encompassed by this definition. The Market Surveillance Administrator also includes people who are constrained in their access to competitive choice, either because of geographic location or because of their credit history (MSA 2009 [Retail Review], p. 15).

One stakeholder defined all small customers as being vulnerable. Another small group of stakeholders included Albertans who simply did not want to take the time to evaluate their options. However, the results of the Retail Market Review Committee's consumer survey—which reflect the opinions of a representative sample of Albertans—suggest that most Albertans are fairly sophisticated in their ability to make wise buying decisions, whether it be cellphones, mortgages or electricity. It is the committee's view that people who have choice and could evaluate their options, but do not find it worthwhile to do so, are not vulnerable.

On the other hand, customers who have limited choice based on where they live should be considered vulnerable. The Alberta Utilities Commission does not oversee the rates charged by rural electrification associations and small municipalities. If consumers cannot choose to switch to a retailer, they have no recourse about the rates they pay.

Defining Protection

Section 13iv of Ministerial Order 32/2012 defines protection as having three distinct components:

- access to adequate electricity services
- the adequacy of current cost protections
- the adequacy of support from social services

Service Adequacy

Access to adequate electricity services can be thought of in two ways. First, it could mean access to things such as reliable physical service or to accurate, timely meter reading and reasonable service response times. Second, access to adequate electricity services could be interpreted as the customer's ability to pay for service. These aspects of the industry are regulated by the Alberta Utilities Commission, which sets reliability and service quality standards for owners of electric and gas distribution utilities. Distribution utilities are required to report performance on these standards on a quarterly basis (AUC n.d.-e).

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[3] In early 2012, the *Energy Marketing and Residential Heat Sub-metering Regulation* was amended to allow retailers to collect security deposits from customers with poor credit. This makes it possible for such customers to enter into competitive agreements for electricity services.

Cost Protection Adequacy

Access to electricity can depend on a customer's ability to pay for service.

Unlike other provinces, Alberta does not have a history of using subsidized prices to provide a safety net for low-income consumers. Stakeholders who shared their views with the Retail Market Review Committee were almost unanimous in their opinion that income issues should continue to be handled through social support programs, not through the creation of a subsidized electricity rate.

Social Support Adequacy

The Retail Market Review Committee feels it cannot comment on whether existing social services provide adequate financial support. That is a broader social policy issue to be addressed by government.

Implementing Protective Measures

Disconnection and Reconnection Practices

Legislative changes that resulted from the Davis Inquiry have allowed the Alberta Utilities Commission to implement additional protections for vulnerable Albertans. Gas and electric utilities now have standardized disconnection and reconnection practices to ensure people have power and heat during the winter. Procedures put into place in 2011 require utilities to identify sites that have been disconnected, contact those customers and inform the Utilities Consumers Advocate. The UCA then works with the utility or retailer and engages relevant social support agencies to get sites reconnected. The UCA also operates a mediation call centre to support Albertans. On average the UCA fields an average of 2,500 calls per month.

Stakeholders advised the Retail Market Review Committee that the protections—listed above, in addition to the reliability and service quality standards, have been effective and that access to adequate physical service is not a concern.

Cost Protection and the Ability to Pay

The current default rate provides little cost protection either in terms of monthly volatility or the customer's total annual bill. However, consumers have the option of asking their default rate provider for a "levelized billing option," where the provider estimates the annual bill and splits it into equal monthly bills. A true-up is done at the end of the year, once the final, actual cost is known. At that time, the customer receives either a credit for any overpayment or a bill for any shortfall. Alberta Works advised the Retail Market Review Committee that equalized payments were likely the best option for low-income consumers.

As discussed on p. 124, prepaid electricity plans may offer a degree of cost protection for vulnerable Albertans. Prepaid electricity eliminates retailers' risk in taking on customers with poor or no credit histories, which would make it possible for these customers to enter into service agreements with retail electricity providers.

Institutional Support

Vulnerable Albertans have access to financial and social assistance from a number of organizations. Financial support is available from provincial government programs such as Alberta Works and Alberta Assured Income for the Severely Handicapped and from non-profit organizations like the Red Cross. Non-financial assistance such as referrals, information and budgeting advice is also provided by these departments, as well as by the Utilities Consumer Advocate.

For a list of support agencies that can help consumers with electricity-related issues, see Appendix 4.

Two findings emerged from the Retail Market Review Committee's discussions with the providers of provincial support programs—first, that some supports could be improved, and second, that better coordination between agencies would be beneficial in some areas.

Non-Energy Charges — Freeze

The Retail Market Review Committee listened to the input of the various stakeholders and consumer groups regarding the current freeze on non-energy rates as asked of the Alberta Utilities Commission by the Government of Alberta. The committee reviewed the historic rate increase trends and has no reason to believe that the due process of reviewing and approving those rates has not been effective and carefully evaluated. The committee also recognizes the distribution and transmission industry is going through a significant capital upgrade and renewal. A cyclical process in the maintenance and development of a robust infrastructure that has not been upgraded to any significant level for the past four decades and that overview process are being monitored on behalf of consumers by the proper government agencies.

Ideas for the future

The Utilities Consumer Advocate suggested that Alberta should develop an energy protection policy to address the problems that vulnerable Albertans have with energy bills. That is an option that could be explored. However, it could also be argued that provincial policy might be better aimed at the broader question of how best to coordinate and deliver assistance in general to vulnerable Albertans.

Chapter 8

Recommendations for General Market Improvements and for Supporting Consumers

About the Recommendations

The recommendations in this chapter can and should be implemented, regardless what decision the Alberta government makes on the default rate.

Many of the recommendations in this chapter are intended for the Minister of Energy, under whose direction the Retail Market Review Committee conducted its assessment of retail electricity in Alberta.

Some recommendations in this chapter are suggestions for other ministries or for industry stakeholders and agencies. This reflects the complex interconnections that characterize the electric industry.

The Retail Market Review Committee respectfully recommends to the Minister of Energy that the Government of Alberta should take the following measures in order to increase the competitiveness of the retail market, remove barriers to entry, growth and customer switching, and support consumers.

I. Increasing Competitiveness

A. Reduce barriers to entry for competitive retailers.

1. Standardize disconnection, enrolment and de-enrolment practices across the province. Amend the *Distribution Tariff Regulation* to enable the Alberta Utilities Commission to examine and standardize disconnection, enrolment and de-enrolment practices across the province. Enable the commission to investigate wrong enrolments and mitigate their effect on retailers and customers.

2. Address the lack of standardization and inequity that current security and prudential requirements impose on retail electricity providers, and align these requirements with the actual risks they are intended to address. Amend the *Distribution Tariff Regulation* to give the Alberta Utilities Commission the authority it needs to develop and implement province-wide standards for the security deposits that distribution utilities require from retail electricity providers.

3. Match the Alberta Electric System Operator's financial security requirements for retailers to actual risks. Encourage the AESO to continue and complete its work with retailers on these requirements.

4. Level the playing field for retail electricity marketing, and stop affiliated retailers' preferential access to RRO customers' billing envelopes. Either all retail electricity providers should be able to include marketing materials in the RRO billing envelope, or none should. Amend the *Code of Conduct Regulation* to give the Market Surveillance Administrator and the Alberta Utilities Commission clear authority to rule and intervene in matters related to using the RRO billing envelope for marketing purposes.

5. Lower Service Alberta's security licence and bond fees for retail electricity providers to bring them in line with the requirements for natural gas retailers. Ensure that the requirements are consistent with the size and nature of each retailer's business.

LAYING THE GROUNDWORK

The Retail Market Review Committee commends the work of the Alberta Utilities Commission to improve the System Settlement Code (which translates customers' cumulative meter readings into estimated consumption), the Tariff Billing Code (which defines standards for the transfer of billing information to retailers) and Rules 2 and 3, which define minimum performance standards for billing and meter reading. Continued progress in these areas will help to standardize the business interface between retailers and distribution utilities, improve the accuracy of metering, billing and load settlement, and standardize disconnection and de-enrolment practices.

The committee recognizes and commends the efforts of the Alberta Electric System Operator in reviewing the terms and conditions of the security deposits it requires from wholesale market participants, which can include retail electricity providers.

Service Alberta told the committee it was reviewing its security bond requirements for retail electricity providers. The committee agrees the size of the required deposits should accurately reflect retailer-specific risks. Service Alberta also indicated it was updating regulations to standardize the rules for contract cancellations and to standardize the language and requirements for electricity contracts to align them with contractual requirements for cellphones, natural gas and other retail services.

B. Reduce barriers to growth and competitiveness.

6. Improve system data processes, and standardize data system-related business practices, processes and information transfer protocols across the province. Provide clear regulatory direction that empowers the Alberta Utilities Commission to set new, province-wide data standards and processes and to address outstanding system settlement code-related issues related to metering, meter-reading accuracy, meter data verification and the timeliness of final load settlement calculations.

7. Ensure data accuracy. Enable the Alberta Utilities Commission to create a standardized verification process and strengthen the Alberta Electric System Operator's role in ensuring data accuracy. Ensure that retailers can verify their invoices from the AESO to reconcile AESO charges with customer meter readings.

8. Set standards and performance incentives for accurate and timely meter reading at both the customer and transmission level.
   a) Encourage the Alberta Utilities Commission to consider creating performance-driven rewards or penalties for meeting standards of accuracy in reading customers' meters
   b) Ensure that the Alberta Utilities Commission is empowered to set standards of performance for metering accuracy at the transmission level and able to consider creating performance-driven rewards or penalties for meeting these standards.

C. Reduce barriers to consumer switching.

9. Address consumer concerns that switching could reduce the reliability of their electricity service. Provide consumers with the information they need to be confident about their electricity-related decisions.
    a) Ensure, through education programs, that consumers understand the clear separation between the physical delivery of energy and retail electricity service.
    b) Amend the *Code of Conduct Regulation* to eliminate co-branding between affiliated retailers and owners of distribution systems.
    c) Bring Service Alberta requirements for electricity service agreements into line with those for other retail goods and services. Eliminate the current requirement for extra warning and disclosure statements for electricity service agreements.
10. Eliminate location-based barriers to consumer choice. All Albertans must have access to choice.
    a) Clarify the Alberta Utilities Commission's authority to enforce the Tariff Billing Code and ensure that municipalities and rural electrification associations comply with code requirements.
    b) Work with Alberta Agriculture and Rural Development to clarify the roles and responsibilities of rural electrification associations with regard to consumers in their service areas.
11. Amend the *Energy Marketing and Residential Sub-metering Regulation* to standardize Service Alberta cancellation rules for retail service agreements. The same rules should apply across all marketing channels.

II. Providing Better Information and Resources for Consumers

D. Give consumers more billing options.

12. Provide retail electricity providers with the flexibility they need to develop bills and billing options that best serve their customers.
    a) Create a task force to study the use of prepaid electricity in other jurisdictions and make recommendations on how to implement prepaid electricity as a retail option in Alberta. Prepaid billing is currently prohibited under Service Alberta's *Energy Marketing and Residential Sub-metering Regulation*.
    b) Amend Section 4 of the *Billing Regulation* to provide retail electricity providers with the flexibility to decide how best to display required information on their customers' bills.

LAYING THE GROUNDWORK

Communication efforts that give consumers information about choice and the retail market, without explaining aspects of the industry that most people find irrelevant, is a good start. Ensuring consumers have the basic information they need, like where to get information about their choices, what factors to consider, what tools to use to make cost comparisons and what to look at in a contract's fine print is important.

Electricity bills should provide consumers with the information they need and the level of detail they desire. (The Retail Market Review Committee's consumer survey found that most Albertans understand their bills and actually prefer to see the details.)

E. Design and deliver a coordinated, multi-year education and awareness campaign.

13. Designate the Utilities Consumer Advocate to lead the campaign and coordinate effort from relevant government and industry agencies.

14. Design the campaign as a multi-year project that runs until such time as government introduces changes to default service.

15. Consider allocating a budget of $1 to $3 million per year during the transition period. The exact funding amount, funding allocations and sources should be determined by the Alberta Department of Energy in consultation with relevant agencies and stakeholders.

16. Fund the campaign through both private and public sources, including the Balancing Pool. Invite retailers to contribute to education and awareness programs where a clear benefit to them exists; in any other market, such programs would be normal business expenses.

17. Target specific segments of the campaign at low-income households, caseworkers who work one-on-one with vulnerable Albertans and consumers who currently have limited choices in the part of the province where they live.

18. Use a variety of communications channels, including the Internet.

19. Include appropriate key messages, including the fact that selling and delivering electricity are separate functions, and that switching to a retail electricity provider does not affect the level of service or reliability customers get from their regulated distribution utility. Other key messages should focus on where to find information about choices and how to find tools for comparing different products and agreements.

20. Explain how non-energy charges are determined, why some aspects vary from month to month, and why transmission and distribution infrastructure costs, in general, are currently increasing. (The Retail Market Review Committee's consumer survey found that more Albertans were concerned about the cost of transmission and distribution than about the cost of energy.)

21. Work with transmission owners and the Alberta Electric System Operator to develop joint messaging that provides perspective on how infrastructure changes have happened historically and what they have cost.

22. Provide information about value-added products and services in Alberta's emerging energy services market and about the progress of electricity retail market development.

F. Provide online information.

23. Create and maintain a website entirely devoted to the retail market and customer choice.

24. Provide consumers with a gateway to information sources and customizable tools for easy comparisons. (An Alberta version of the Texas "Power to Choose" website and Norway's consumer agency website merit consideration.)

25. Explore online delivery options.
    a) Consider offering a government-administered website that gives consumers a sense of confidence about the offers they find there.
    b) Explore the model adopted in the U.K., where privately owned consumer choice websites are provided by organizations that are sanctioned by the government as trustworthy sources and financed through commissions from retailers.

III. Representing Consumers' Interests

G. Empower agencies to do the job they need to do.

26. Strengthen and affirm the mandate of the Utilities Consumer Advocate to promote and support a "fair, efficient and openly competitive" retail electricity market.

    a) Work with Service Alberta and other Government of Alberta ministries to amend legislation and create the supporting structures needed to establish the Office of the Utilities Consumer Advocate as an independent agency like the Alberta Electric System Operator and the Market Surveillance Administrator.

    b) Change the governance structure of the Utilities Consumer Advocate. Replace the current advisory board with a governance board of directors made up of members at large.

    c) While the Utilities Consumer Advocate would continue to represent Alberta consumers' interests in regulatory interventions, the Alberta Utilities Commission is urged to consider revising Rule 22. The committee feels that the AUC is best placed to determine which organizations or associations should have resources made available to allow proper representation of their position in the public process.

27. Strengthen and affirm the mandate of the Market Surveillance Administrator to promote and support a "fair, efficient and openly competitive" retail electricity market that provides all Albertans with access to choice. Develop a new regulation that identifies a "fair, efficient, and openly competitive" mandate for the retail market and that clearly identifies the Market Surveillance Administrator's role and authority.

28. Embrace best practices that support continuous improvement in Alberta's retail market. Designate the Utilities Consumer Advocate, in association with industry, government and related agencies, to coordinate an annual conference focused on retail best practices and emerging innovations.

IV. Protecting Vulnerable Albertans

H. Implement protective measures.

29. Encourage and support the cross-government coordination of service protection agencies to ensure that people do not fall through the cracks.

    a) Consider establishing an oversight committee that spans current social support programs and coordinates the sharing of information about electricity-related support and services.

    b) Work with other government departments to review electricity-related support programs and ensure they are meeting people's needs.

    c) Consider expanding the support available to people who end up with a "provider of last resort" because they have not paid their bills. The "once in a life time" support payments for help with utility bills seem inadequate.

30. Support the Utilities Consumer Advocate's efforts to ensure that social agencies get the information they need about new and emerging electricity issues. (For example, if prepaid electricity is approved, the UCA should inform relevant agencies. The UCA should also provide resource materials and coordinate the dissemination of these materials to support organizations and institutions.)

31. Consider creating a special energy fund that could supplement the utility bill-related assistance currently available through the Ministry of Seniors and through Alberta Works and AISH. The fund could be supported through a minor reduction in the Balancing Pool credit that all customers currently receive.

32. Lift the freeze on non-energy charges as soon as possible. If legitimate rate increases have accumulated during the freeze period, phase these in over a reasonable period of time so that consumers are not exposed to a rate shock when the freeze is lifted. The phase-in period should be equal to the time the freeze has been in place.

Chapter 9

Analysis and Recommendations regarding the Default Rate

The Committee's Assignment

Section 13 of Ministerial Order 32/2012 directed the Retail Market Review Committee to provide guidance on the following issues:

- the purpose of the default rate
- within the context of a competitive retail market, whether there is a continuing need to have a default rate
- if it is determined that the current default rate is not required, the provisions that would be required to ensure that a new default rate—"provider of last resort services"—is available

The committee's review of the purpose and future of the default rate was conducted within the context of Alberta legislation that enables the development of a competitive retail market. As directed in Clause 9 of the Ministerial Order's terms of reference, the committee conducted its review "with due regard to the following: i. Alberta legislation regarding electricity markets, including having due regard to the purposes of the *Electric Utilities Act* as set out in section 5, and section 110 thereof;..."

THE *ELECTRIC UTILITIES ACT*

PURPOSES OF THE ACT

5 The purposes of this Act are...

(e) to enable customers to choose from a range of services in the Alberta electricity industry, including a flow-through of pool price and other options developed by a competitive market, and to receive satisfactory service; ...

CUSTOMER'S RIGHT TO PURCHASE FROM RETAILER

110 Subject to this Act and the regulations, a customer has the right to obtain retail electricity services from a retailer.

The *Electric Utilities Act* and the terms of reference in the Ministerial Order focused the committee's work on the province's preference for developing a competitive retail market for electricity that will provide consumers with the following benefits:

- a flow-through of pool price
- other options developed by a competitive market
- the right to obtain electricity services from a retailer.

Consumer choice (Section 5e, the ability to "choose from a range of services") and the right "to obtain retail electricity services from a retailer" (Section 110) are the key, relevant provisions.

Given these directives and guidance, the Retail Market Review Committee determined that its assignment was to consider first whether the retail electricity market was competitive (see Chapter 7) and then 1) determine what the impact of a default service would be on the market in the future, 2) consider what the impact on consumers would be if default service were changed and 3) determine what was necessary to ensure that provider of last resort services were available.

The Situation

All the recommendations in the previous chapters can move forward without regard to a decision on the default rate. Market reform is a process of continual renewal. While change creates uncertainty, a move in a constant direction—toward more market accessibility and more competition—will help to build confidence and give consumers more choice.

Public policy regarding the default rate must also move forward.

Of all the Retail Market Review Committee's recommendations, none is more important than the committee's recommendations about default rate options. Balancing the needs of today's consumers with a market structure that is appropriate to foster competition is not easy. While more than one-third of small consumers in Alberta have exercised their right to choose from a range of services, and have obtained retail electricity service from a retailer, that choice will be affected by what happens now. Government has defined a desired end state—robust retail electricity industry competition—and the order of the steps to get there is crucial to success. The default rate presents a tension that must be carefully managed. It's a puzzle like the "chicken and egg" question." Which comes first, the competitive market or the end of the default rate?

The existence of a default rate and the desire for a competitive market pose a number of competing objectives:

- A government-authorized default rate is an anomaly in a competitive market. A retail electricity market cannot be considered fully competitive until the default rate is phased out.[1]
- The presence of a default rate is a significant impediment to the development of a competitive retail market. New market entrants are wary of a government-set rate that can have serious consequences for their business strategy and serious negative consequences on their investments.
- The default rate is considered essential for small consumers when markets first open. The issue is when are consumers informed enough to make choices on their own? Is there a clear benchmark of success to declare the market competitive enough to phase out the default rate?
- The resource procurement methodology for a default rate can result in higher volatility and higher rates than are desirable. At the same time, "better" approaches can create huge barriers to entry because any particular procurement methodology may compete head-to-head with competitive offerings.
- The very existence of a default rate suggests government approval, regardless how the rate is designed or named. Since consumers are used to the regulated world, they do not understand the default rate as anything other than the "government" rate. Many consumers maintain a comfort level with the rate regardless of its performance.
- The default rate sets forth a method for calculating the rate. The current default rate, the RRO, is heavily dependent on wholesale market conditions, but consumers do not understand that. Consumers seek a fair rate from government even though better choices are already offered in the marketplace.

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[1] In the electric industry, the government sets the rules for market participants, regulates the distribution utilities and provides other monopoly functions. It is difficult to see how government could act independently as both rule maker and market participant.

It must be understood that any default rate is a government intervention into the competitive retail marketplace. However well designed, the mere existence of a rate authorized by government is an intervention. When the Alberta retail market was first opened, this intervention was appropriate and necessary. Now it presents a barrier to entry. It creates the reality and the perception of regulatory uncertainty, and it creates a rate that competes with products and services in the marketplace.

Retail competition has existed in Alberta's electricity market for more than a decade. The Retail Market Review Committee believes there are two possible paths forward: keeping a default rate permanently, or phasing out the default rate. The choices can be framed in terms of the purpose of a default rate:

- The default rate is a permanent retail market choice for consumers.
- The default rate is a transition mechanism.

Keeping the current default rate for an extended period would make it a nearly permanent feature of the retail electricity market. Serving the perceived needs of people who have not chosen would reduce the benefit to all Albertans. The existing market would shrink and innovation would stall. Consumers who have embraced the competitive market would be made worse off. Only the incumbents—the current RRO providers—would benefit.

The Retail Market Review Committee does not recommend this course of action. Rather, the committee believes unequivocally that the default rate is a transition mechanism.

Evidence and Analysis

The Retail Market Review Committee's opinion on the purpose of the default rate, whether there is a continuing need to have a default rate, and the provisions that would be required to ensure "provider of last resort services" are available is based on the following data and information:

- experiences in other jurisdictions
- knowledge of consumer preferences in electricity markets
- the expectations of retail suppliers who may enter the market
- stakeholder presentations

The Purpose of the Default Rate

The Retail Market Review Committee posed the question of the purpose of the default rate to industry stakeholders.[2] Stakeholders offered a range of opinions. They wrote that the default rate should:

- provide an option for consumers who do not want to sign retail contracts
- provide a benchmark against which people can gauge retailers' products
- provide, a stable, no frills, low-cost option
- provide a specific mechanism for protecting vulnerable customers
- provide appropriate protection during the transition period as consumers educate themselves
- provide a transitional service to ensure continuity as a competitive retail electricity market develops

Many of these stated purposes are remnants of the regulatory mindset that is typical of many consumers. Regulation is appropriate in the segments of the electricity industry that require it, but there must be an understanding of the impact on competition of wrong-headed default rate policies. Markets ought to be designed for resource allocation, economic efficiency, innovation and customer choice.

The Committee's Position

Some stakeholders proposed that the default rate should provide an option for consumers who do not want to sign retail contracts. The committee's view is...

People who do not wish to sign retail contracts or engage enthusiastically in the retail market will benefit from those who do want to choose. People passively purchase many other products because of the efforts of other consumers and of various market stakeholders who reduce costs and increase value for everyone. There is no harm in passively participating in a market, but government intervention in markets just because some consumers would like government services will hamper the market for everyone.

Some stakeholders proposed that the default rate should provide a benchmark against which people can gauge retailers' products. The committee's view is...

Providing a benchmark against which people can gauge retailers' products may be a worthy activity for market monitoring. But a default rate that is in the market may become an ineffective market maker, not a benchmark for measuring performance. Several stakeholders observed that the existing retail offers in Alberta are designed to "beat the RRO" rather than to beat each other."

Concerns about the competitiveness of the existing market are real, and there is confusion between benchmarking and interfering. The RRO interferes with the functioning of the retail market by attempting to provide a market alternative or a choice. The RRO is not a choice. It is a transition mechanism. It is an assignment of customers because electricity is an essential service and because it cannot be assumed that all mass market consumers will choose a retailer immediately.

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[2] Stakeholder opinions are detailed in Appendix 6.

Some stakeholders proposed that the default rate should provide, a stable, no frills, low-cost option. The committee's view is...

A stable, no frills, low-cost option is already available in the marketplace, but it is not the RRO.

The irony of this stated purpose is there is a perception by typical consumers that the RRO is stable, no frills and low cost. It is none of these. Consumers believe it is stable and low cost because it uses the word "regulated" in its name. In some months, the RRO rate is relatively low and sometimes it does not vary much from month-to-month. Consumers view it as "no frills" because it is similar to what has been provided in the past. However, the RRO includes many frills, including high-cost services that many consumers do not want—including paper bills, payment options and investments in customer call centres.

With education, consumers will learn the marketplace has stable, no frills, low-cost options that serve them better than any default rate. Some new retailers will provide electronic billing only, and thus keep costs low for consumers who agree to that level of service.

Some stakeholders proposed that the default rate should provide a specific mechanism for protecting vulnerable customers. The committee's view is...

Providing a specific mechanism for protecting vulnerable customers should not be a function of a default rate. A default rate has broad applicability and accessibility for all consumers. Alberta has social service professionals who are fully capable of targeting vulnerable Albertans, and designing and delivering programs and assistance to assist these citizens.

Some stakeholders proposed that the default rate should provide appropriate protection during the transition period as consumers educate themselves and provide a transitional service to ensure continuity as a competitive retail electricity market develops. The committee's view is...

The committee agrees with the views of these stakeholders. The issue now is one of timing. When does the transition period end? When have consumers sufficiently educated themselves?

The purpose of a default rate is to provide a transitional service to ensure continuity as a competitive retail electricity market develops. Small consumers require time to educate themselves, and in a mass market, five years is not an excessive amount of time for customer education and the decision to select a competitive retail supplier. In Alberta, it has been more than a decade, and it is time to complete the transition.

The Default Rate, Consumer Preferences and Consumer Impacts

The Retail Market Review Committee conducted a telephone consumer survey to gather information about consumer preferences.[3] The survey indicated there is a preference among Albertans for fixed annual pricing for the electricity they use in their homes. A majority of Albertans believed the default rate, the RRO, should remain in place. However, 81% of Albertans believed it was important to have a choice in selecting who sells them electricity. When confronted with three pricing scenarios, 52% selected flat monthly pricing throughout the year, 33% indicated a willingness to accept pricing that fluctuates each month and 11% selected prices that vary every three months. Another question required respondents to trade off price and volatility. In this instance, 50% of Albertans preferred the lowest average price, even if the price changed frequently, and 36% preferred reasonable pricing with some volatility. Only 13% indicated a willingness to pay a premium to know that the price would not change for a year.

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[3] Survey results are summarized in Chapter 5. The complete survey report is available at www.rmrc.ca and in Appendix 5.

A summary of the committee's consumer survey is included in Chapter 5. A detailed report is available on www.rmrc.ca.

An important conclusion the committee draws from the survey is the need for a robust market with different choices to meet the different preferences of consumers. These choices relate to the things people care about most: price, price volatility, price risk, and energy management to control cost. One pricing program—however well intentioned—will not satisfy everyone. Policy-makers sometimes forget that any rate design set forth in tariff will serve some consumers well, but not others. The survey clearly demonstrates that consumer preferences vary a great deal. Some jurisdictions try to modify default service by offering more choice: green pricing, time-of-day pricing, etc. But is designing different pricing options for consumers an appropriate role for government? Or should government simply create a market structure that allows consumers to express their preferences and demands in the marketplace and allows retailers to serve these preferences and demands? Markets are an efficient mechanism for satisfying a range of consumer preferences and enhancing consumer choice.

The experiences of other jurisdictions are revealing. North American states and provinces that try to satisfy consumer preferences through the design of the default rate are not only stifling market creativity, they are blocking new entrants and services, increasing regulatory uncertainty, and maintaining consumer expectations that electricity service options are something that government should design. States with these policies have unremarkable rates of consumer switching, few retailers in the market and few choices in the market.

The Committee's Position

What are the costs to residential consumers who remain on the default rate as currently designed? The committee can demonstrate the following:

- The current RRO is *more costly* than many currently available choices in the market. People seeking the lowest cost can choose from among many lower-cost alternatives to the RRO.
- The current RRO is *more volatile* than many currently available choices in the market. Persons seeking low volatility can choose from among many stable-price alternatives to the RRO.

What are the drawbacks of the current RRO as currently designed?

- The current RRO does not appear to give a very good price signal to consumers.
- There is a low correlation between the pool price and any of the RRO rates. (For a discussion of pool price and RRO rate volatility, see Chapter 4.)
- Even if consumers can switch in a day (if they know how), the window between "price discovery" and the month in question is very short.
- The method currently employed by Enmax and Direct Energy Regulated Services for setting it seems ad hoc, overly prescribed, and depends on a single individual.

The committee's survey indicated that consumers believe they are well informed about their options, but given the data listed above on the RRO, it is clear there is a great deal of confusion in the marketplace. Consumer education must focus on helping consumers select a retail supplier. Efforts must be made to create a website that will allow easy price comparisons among similar competing products. With choice about their options, consumers can become well informed and select products that reflect their preferences.

Does a Competitive Retail Market Still Need a Default Rate?

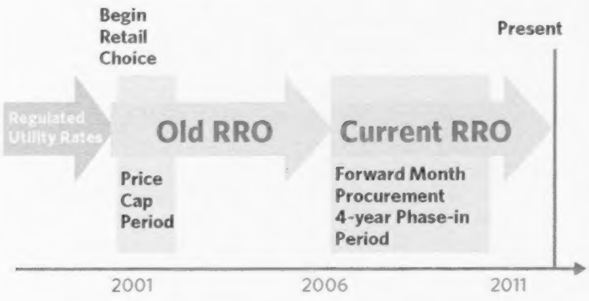
The Market Then and Now

The original default rate was intended to expire in 2006. It was meant to be transitional. Its purpose was to allow time for the retail market to develop in terms of the entry of retailers aiming to serve the mass market and in terms of smaller consumers becoming comfortable and confident about moving to competitive service agreements for electricity.

As 2006 approached, it became clear that the market had not developed as expected during the transition. Lack of entry by new retailers was caused by a number of factors. The government-imposed price ceiling on retail rates in 2001 was undoubtedly important, since it sent a clear signal to potential entrants that the provincial government was still skittish about deregulating this part of the market. New entrants could easily interpret this signal as a willingness for the government to make sudden policy reversals which could be devastating to firms attempting to make a foothold in the market. Firms can deal with risk in a number of ways. But they cannot deal with government policy uncertainty, which can change the rules of the game overnight, with no warning.

Figure 42.

The evolution of regulated electricity rates in Alberta



RRO = Regulated Rate Option

In the early years of electricity restructuring, major business process failures reduced consumer confidence in the retail market. The market opening deadline did not allow sufficient time for rigorous system testing, and fundamental audit checks and data controls were omitted from the technical specifications. Most importantly, rigorous performance requirements and measures were not put in place. Errors in meter reading flowed through a complex set of new systems, creating billing errors that retailers were unable to address. (Only wire owners can do meter readings on customer property.) Customers waited for hours on the phone, only to be informed their retailer could not correct the error. The Utilities Consumer Advocate was created to assist in dealing with this problem.

Business process barriers to entry characterized the early years of the retail market. To meet the market opening deadline, electricity-related business transactions were extremely rudimentary.[4] There was no standardization—each wire owner presented transmission and distribution charges in a completely different way. Many meters were read only twice a year, causing a seven-month delay in finalizing energy allocations for the entire distribution service area. Small-volume, semi-manual systems could be created to serve large customers. In the residential, farm and commercial mass market segments. however, the cost of creating systems to handle the poorly designed and inconsistently implemented business process infrastructure created a major barrier to entry.

Government policies made matters worse. In reaction to some poor experiences with natural gas retail marketing in the 1990s, Service Alberta imposed more stringent licensing and bonding requirements on electricity retailers. For example, retailers were required to post a million-dollar bond even if they only intended to serve a relatively small number of customers.

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[4] For example, until a key deficiency was rectified through the Wholesale Settlement Detail (WSD) transaction, retailers could not check their energy charge invoice without duplicating the wire owner's load settlement calculations across every one of their customers.

Not surprisingly, no entry occurred. There was only a handful of competitive products to choose from, all of which asked customers to agree to long-term service agreements, and all of which had onerous penalties for early exit. It was equally unsurprising that only 7% of small customers switched away from the default rate by April 2005 (DOE, 2005, p. 9).

In 2005 the Alberta government decided to prolong consumer access to a default rate, and phased in the current form of the Regulated Rate Option (RRO) over a five-year period starting in mid-2006. A key feature of the new RRO was procurement of energy in month-ahead forward markets. This provided price transparency and reduced hedging. Thus the new RRO moved away from competing with that portion of the market that offers consumers stable prices over a period of months or years.

Now, in 2012, the landscape is different. The retail market is much more competitive than it was in 2005. There are three large and nine small retailers offering a variety of service agreements that vary in price and terms. (There were about 50 different offerings as of July 2012.) Only one retail electricity provider charges an exit fee. The others allow termination with no penalty following a 15- to 30-day notice. As of mid-2012, one third of residential customers and nearly one half of commercial customers eligible for the RRO have switched to a service agreement with a retail electricity provider.

Comparing Switching Rate, Providers and Choices in Texas and Alberta

There is value in considering the key consumer-facing features of the Alberta market and comparing those to another successful market in North America: Texas.

The following chart contains information about the net switching rates in Texas (percent of mass market consumers no longer with the legacy or incumbent provider), the number of active retailers and the number of products or offerings in the retail market. This data is then overlaid with information about the default rate. Note that in Texas today, there is only a Provider Of Last Resort (POLR), so the switching data refers to the percentage of consumers no longer with the legacy or incumbent former provider of the "price to beat" default service. In Texas, market participants knew when the market opened in 2002 that the price to beat would last five years and then expire.[5] They also knew that consumers who had not made a choice of retailer would remain with the "price to beat" affiliated retail electricity provider, but without any price regulation, until those consumers choose service from a different retail electric provider.[6]

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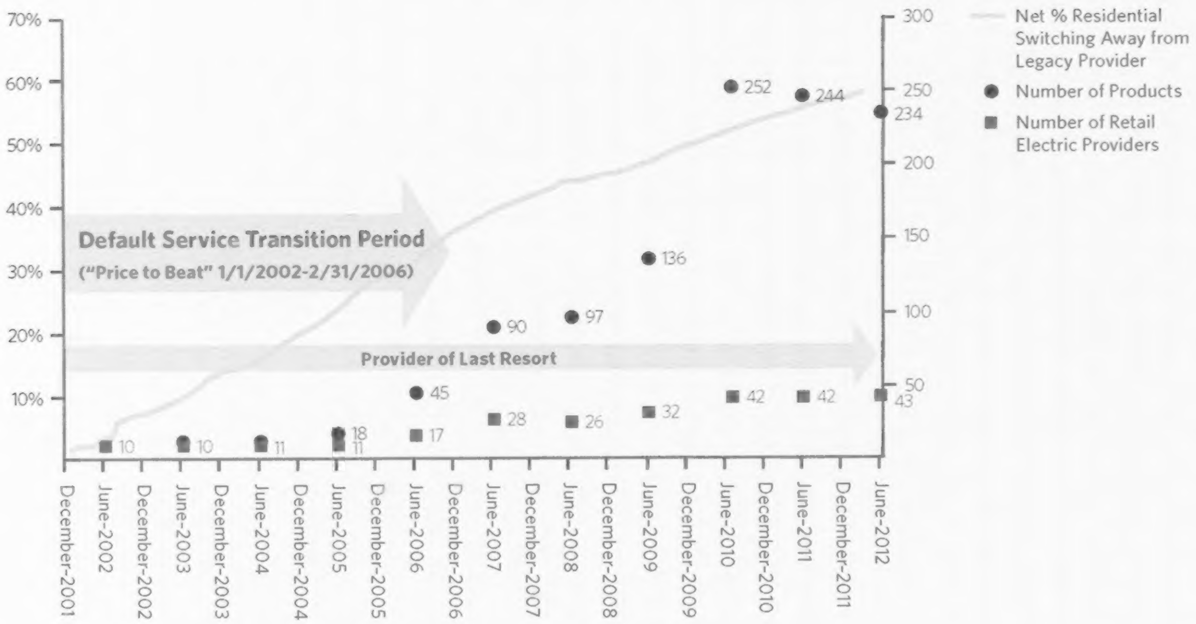
[5] *Texas Public Utility Regulatory Act*, Sec. 39.202, Price To Beat, Effective as of September 1, 1999. The regulated "price to beat" was offered by affiliated retail electric providers from 1/1/2002 to 1/1/2007.

[6] *Texas Public Utility Regulatory Act*, Sec. 39.102, Retail Customer Choice. The regulated "price to beat" was offered by affiliated retail electric providers from 1/1/2002 to 1/1/2007.

Figure 43.

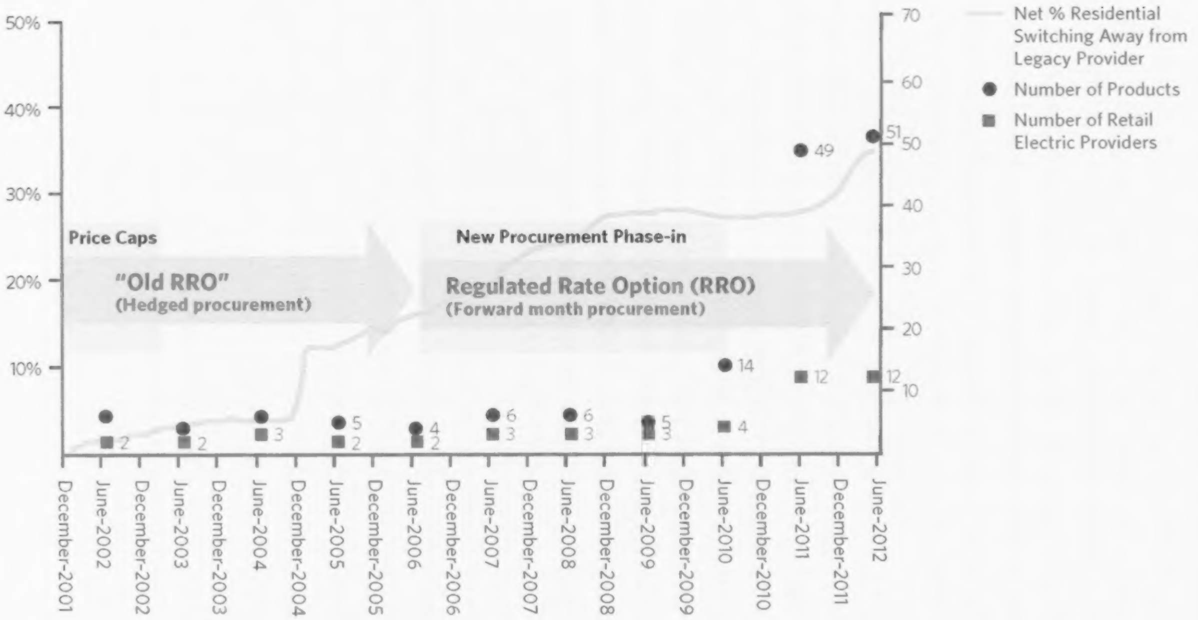
The development of the residential electricity market in Texas, 2002 to 2012



The situation in Alberta can be compared to Texas by observing similar data regarding net switching rates, the number of active retailers, the number of products or offerings in the retail market and the time periods over which the default rates have been offered. Applying the "chicken and egg" analogy presented earlier in this chapter, there are those who would interpret these charts as telling a compelling story about the need to remove the default rate in order for market participation, product offerings and switching rates to increase. Others would suggest that when these market indicators increased sufficiently, the default service could be phased out, but not before.

Figure 44.

The development of the residential electricity market in Alberta, 2002 to 2012



In Texas, the decision to phase out the default rate and to move the remaining non-switching consumers to the default rate provider was set forth in legislation,[7] and market participants had confidence in the process. In Texas, on July 1, 2007, the requirement for the "price to beat" default service expired. There were about 17 retailers offering 45 products, and the net switching rate was about 35%. In Alberta, the pattern is similar to Texas, but the situations are not identical. In Alberta, switching off the default service provider (RRO) to an affiliated retail electric provider counts as a switch, whereas in Texas the affiliated retail electric provider was the default service provider, and a switch was a move away from service by the incumbent.

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[7] *Texas Public Utility Regulatory Act*, Sec. 39.202, Price To Beat, Effective as of September 1, 1999.

Weighing the Evidence

Benefits of phasing out the default rate

- The current RRO is a government-mandated rate that competes with competitive retail offers. The existence of the RRO creates regulatory uncertainty and decreases investors' willingness to commit resources to Alberta's retail market. It stifles the development of new products and stifles the innovation that can deliver the ultimate benefits of competition and choice to consumers in the long run.
- The current RRO is confusing. Consumers still believe the RRO to be a stable, low rate approved by government, when in fact there are more-stable and lower-cost options available from retail electricity providers.
- Several stakeholders compared the current RRO to a "price to beat" standard used in other jurisdictions, and competitive offers from retailers have been compared to the RRO for at least five years. At best, this is unhealthy. Competitive offers should compete with each other, not with a government-authorized rate. There is even the possibility of collusive behaviour where competitive retailers all come to expect that other retailers are adjusting prices to the RRO, rather than competing with one another.
- The current RRO may be more profitable for incumbents than their retail affiliate offers. A drop in customers on the RRO reduces regulated revenues. This may manifest in retail affiliates being less enthusiastic about developing and marketing products that consumers would find attractive.
- Where the incumbent has not established a competitive affiliate, the RRO provider sees only a loss with increased competition, and no possibility of gain. It does not make sense to set up a market structure in which a distribution utility is, at best, disinterested in the success of the competitive market.
- If the current RRO is being offered by an incumbent distribution utility with regulated assets, potential competitors may be concerned about the incumbent's ability to cross-subsidize. Distribution utility cross-subsidization of the competitive retailer is carefully regulated, but can affect the behaviour of market participants.
- Continuing with the current RRO signals that Alberta has not committed to developing a competitive retail market and may retrench, as in the past. This increases the risk for new entrants that must make capital investments.

Weaknesses of phasing out the default rate

- The current RRO has become the status quo for residential customers in terms of billing, and it avoids the transaction costs of switching. Consumers do not have to spend time to inform themselves about new and perhaps better offerings or making the switch.
- The status quo maintains an intangible comfort level for consumers who do not pay attention to changes in government policies and believe the RRO is a regulated rate that gives them protection.
- The current RRO provides some measure of protection to customers whose retail options are limited to one provider (e.g., REA members).
- If there are barriers to entry into the retail market that will take time to remove, a regulated rate provides a check on the degree to which unregulated retailers with market power can raise prices.

Risks of phasing out the default rate

- There may be public backlash from Albertans who see phasing out the current RRO as reducing choice, as opposed to enabling greater choice.
- There may be public backlash from Albertans who see phasing out the current RRO as losing government protection from profit-maximizing market participants.
- The government would have to determine what to do with customers if their Regulated Rate Provider decided not to continue serving these customers.
- The government may be unable to make a credible commitment to moving away from an RRO-type rate in the face of public backlash.
- Creating a new Provider Of Last Resort (POLR) has administrative costs, and there is some uncertainty associated with the mechanics of setting up POLR.
- There are risks in transitioning from the RRO to POLR before remaining entry barriers have been addressed and before robust competition has developed.

The Committee's Position

The weight of opinion from the stakeholders and organizations consulted by the Retail Market Review Committee was that the retail market is competitive or at least reasonably competitive. (Many stakeholders also pointed out changes that could further increase competitiveness.) The committee concurs with this view.

The appearance of new, "boutique" retailers is largely due to creation of a new, competitive billing agent who uses a billing platform based on 30 years of operational experience in Alberta. This development is a very positive sign. It indicates the retail market potential that could be realized once the major barriers to entry have been removed.

The committee believes the government must signal that the usefulness of the current default rate has passed, and that the existing RRO will be phased out. A different type of default rate—a "provider of last resort" default rate—will be created to protect consumers.

What Is Required to Ensure "Provider of Last Resort" Services?

The provider of last resort (POLR) is a special service that is provided to ensure continuity of service when unexpected or unavoidable things happen to customers in the competitive marketplace. The primary purpose of POLR service is to ensure a smooth transition should consumers ever lose their retailer. For example, a retailer may decide without notice that, for financial reasons, it can no longer serve customers. If this retailer leaves town unexpectedly, POLR ensures that the retailer's former customers continue to receive electricity, receive a bill for their electricity service and be given a reasonable amount of time to choose a new retailer. POLR service may also apply to customers who do not specify a retailer, or if customers are dropped by a retailer for failure to pay their bills. The use of POLR is expected to be rare, and the desire to return to a normal retail electric provider is expected to be high.

The existence of POLR sends a very important signal about the social contract between governments and citizens and about the future of the competitive market. POLR represents appropriate government intervention to address a social issue that is in everyone's interest: keeping the lights on and keeping the cash flowing should a "bad actor" retailer fail to provide service. Small consumers, in particular, may need several days or weeks to select a new retailer, and no one's interests are served by disconnecting customers for actions beyond their control. By addressing a social need, government is signaling that it will only intervene in transactions between customers and retailers to address unusual and unanticipated circumstances.

POLR Regulations

Many stakeholders and organizations noted that a default rate is still needed for customers who find themselves without a retail electricity provider. In other jurisdictions, this type of default service is known as a "provider of last resort" (POLR).

The purpose of POLR service is to ensure that customers continue to receive electricity if they find themselves without a retail electricity provider. Even after a decade of competition in Alberta, no retailer has gone out of business to strand its customers. Nonetheless, it is appropriate to create a mechanism for dealing with this possibility.

The implementation of POLR service requires the development of a number of regulations.

There should be regulations that encourage POLR customers to switch to a retailer as soon as possible to facilitate the functioning of the competitive retail market. There should also be regulations that specify the specific action to be taken to notify customers about their former retailer's default, and to provide them with information about selecting a new retailer.

POLR regulations should specify how the provider of last resort is selected, the terms of service that will be applied to various types of customers and any additional customer protections. If POLR goes out to a competitive bidding process after regulations have been adopted, potential providers will have a clear picture of what the service would likely entail in terms of contract length and customer volumes.

The best methods for selecting the POLR provider and overseeing procurement are best left to the consultation and implementation process for POLR regulations.

POLR service has three broad dimensions relating to space, time and volume.

- The space dimension for POLR service refers to the area to be served by the provider. For example, POLR can be defined by wires utility service areas or for the province as a whole. The definition of the area to be served may be affected by such things as the standardization of billing systems across the province. It may be desirable to establish one approach that is efficient in the near term, and then to revisit the regulation in the future as standardization increases.
- The time dimension relates to how long a provider of last resort maintains the right to serve an area (that is, the duration of a contract to serve as the POLR). To reduce administrative costs, it seems appropriate to select a POLR for several years.
- The volume dimension relates to uncertainty about the number of customers to be served. If a retailer leaves the province unexpectedly, there may be a sudden influx of customers to serve, and these customers could be spread across the province. In this situation, it may require a relatively sophisticated retailer to provide POLR service to a large number of new customers in a short period of time, and with the knowledge that these customers will be selecting a new retailer soon. On the other hand, each day there may be small numbers of customers who do not have a retailer. A certain type of retailer may be best suited to provide POLR service to small, consistent numbers of new customers.

The Committee's Position

The experiences of other jurisdictions with respect to the design and implementation of POLR vary greatly. There is no one solution to POLR service.

Texas is the only North American jurisdiction that has phased out residential customer default service. POLR service was created on the day the market opened—to provide electricity service when a customer's retailer fails. The legislation was general so as to give the rule-making body latitude to create an efficient mechanism for selecting a POLR provider and maintaining oversight.[8]

The Committee believes Alberta should move quickly to examine best practices in other jurisdictions, determine an appropriate design for POLR service, and implement it as soon as possible.

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[8] *Texas Public Utility Regulatory Act*, Sec. 39.106, Provider of Last Resort. The regulated "price to beat" was offered by affiliated retail electric providers from 1/1/2002 to 1/1/2007.

Alternative Approaches to the Default Rate

Presenting the Options

Earlier in this chapter, it was noted that the decision about whether to keep the default rate permanently or to phase out the default rate is closely tied to the purpose of a default rate. Two purposes were posed as possibilities:

- The default rate is a transition mechanism.
- The default rate is a permanent retail market choice for consumers.

Associated with these two purposes are two options regarding the future of the current RRO:

- Option A: Phase out the current RRO as soon as possible.
- Option B: Design and deploy a new default rate.

Option A: Phase out the current RRO as soon as possible.

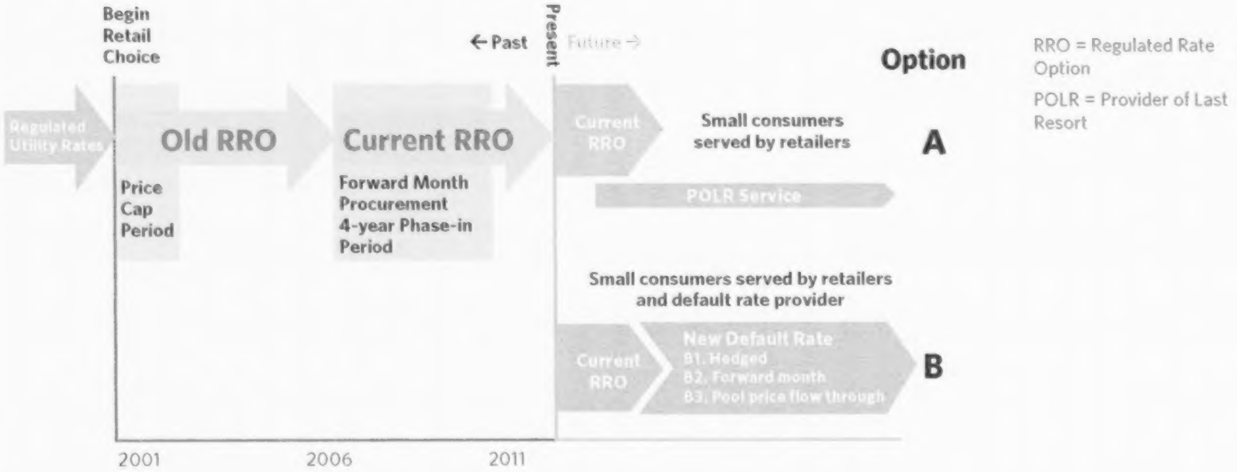
Option A anticipates that the Regulated Rate Option is phased out in the near term.

The Retail Market Review Committee adopts the perspective that a default rate is a transitional mechanism, and that a transition to full competition is nearly complete for small consumers. Because default service is a transitional mechanism for customers who have not yet chosen a retailer, the market must be sufficiently developed before these customers are placed in a system that requires effort and attention.

A starting point for Option A is the creation of provider of last resort (POLR) service. As noted earlier, creating this service will send a message to the market that Alberta intends to remove barriers to entry.

Figure 45.

Possible paths for future default service


Begin Retail Choice
← Past
Present
Future →
Option
RRO = Regulated Rate Option
POLR = Provider of Last Resort
Regulated Utility Rates
Old RRO
Price Cap Period
Current RRO
Forward Month Procurement 4-year Phase-in Period
Current RRO
Small consumers served by retailers
A
POLR Service
Small consumers served by retailers and default rate provider
Current RRO
New Default Rate
B1. Hedged
B2. Forward month
B3. Pool price flow through
B
2001
2006
2011

The other major step is phasing out the Regulated Rate Option on a defined date. Leading up to that date, government will spend time and effort telling customers that the default service (RRO) will end, and that customers have until that date to choose a retail electricity provider or an affiliated retail electricity provider for themselves. If customers do not choose, then they will transition from default service to a competitive rate.

When the Regulated Rate Option is removed, customers served on the RRO will be assigned to a competitive retailer. The Retail Market Review Committee proposes that no unique constraints be placed on the competitive retailer's pricing, terms or conditions of service with respect to these former RRO customers other than the requirements that such customers must have the right to select another retailer without notice, penalty or other impediment.

Transition Alternatives for Different Service Areas

There are two types of RRO providers in Alberta today. There are large companies that serve customers in the multiple service areas. Enmax Energy, for example, serves five other municipalities beside Calgary. Then there are smaller providers-the City of Lethbridge and some rural electrification associations that serve only their own members.

Heading up to the transiiton:

- Distribution system owners will continue to see that the RRO is provided in their service areas until provider of last resort service (POLR) is set up and important barriers to entry and switching have been removed.
- Epcor has the opportunity to decide if it wants to create an affiliated retail electricity provider (AREP) to serve its customers. Both retail electricity providers (REPs) and affiliated retail electricity providers (AREPs) are subject to the same regulations under Service Alberta, the same prudential requirements from the Alberta Electric System Operator and from distribution system owners, and the same enrolment and de-enrolment and disconnection practices across service areas. (These practices would have now been standardized by the Alberta Utilities Commission.)
- Co-branding is addressed by requiring distribution system owners to distinctly disassociate themselves from names, brands or logos used by their AREP and RRO providers.
- The Utilities Consumer Advocate could provide information on regulated components like distribution and transmission charges and local access fees by service area. Alternatively, retailers might choose to make this information available in various formats.

The *Electric Utilities Act* currently treats wire owners differently depending on whether they have retail affiliates serving customers outside their service area. Wire owners with retail affiliates requiring multiple service areas are required to have their distribution tariffs approved by the Alberta Utilities Commission. However, Section 102 (2) exempts a wire owner from this requirement if their retail affiliate serves only customers within their service area (or serves only members, in the case of REAs). Municipal wire owners are allowed to seek approval from their city council and REAs from their board of directors.

This distinction seems reasonable and the committee sees merit in allowing local control if a municipality or REA is not attempting to compete elsewhere in the province.

The scenario for REAs and small municipal wire owners that only serve local members or customers could look like this:

- REAs and small municipalities are allowed to create a retail service delivered through an affiliated retail electricity provider: they do not require Alberta Utilities Commission approval of their distribution tariffs.
- They must, however, comply with current and future Alberta Utilities Commission rules regarding the Tariff Billing Code and System Settlement Code, and are subject to AUC jurisdiction regarding the freedom of customers to choose alternative retailers.
- AREPs are subject to Service Alberta regulations, including licensing and bonding fees. AREPs must comply with enrolment and de-enrolment and disconnection practices determined by the AUC for all service areas in Alberta.
- There is clear differentiation of the physical wire service from the retail service offered by the AREP.

Transition Alternatives Relating to Procurement

During the Option A transition, it may be appropriate to deregulate the way RRO providers are able to procure power. This variation of Option A accepts the status quo that many Albertans are comfortable with, combines it with feedback the committee heard from current RRO providers and gives current RRO providers greater freedom to meet the needs of consumers. At first glance, this would appear to defeat the goal of increasing competitive market pressures on current RRO providers. Fewer government regulations on the current RRO providers would give these providers an advantage.

To merit serious consideration, this variation requires further explanation.

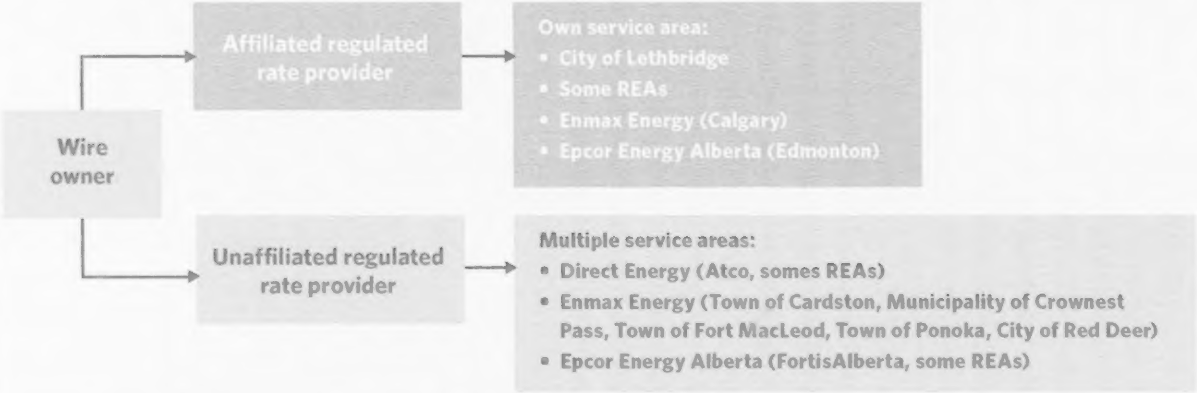
In the following diagram, the variation of Option A is sketched out from the perspective of the consumer. Just like today, consumers who choose to switch to a retailer would be free to do so. Likewise, consumers who currently take service from a retailer would be free to switch to a different retailer or to select service under the RRO. The current RRO provider would change the procurement method to better satisfy the needs of consumers for rate stability and "no frills" service.

On the other hand, the increased freedom to procure RRO service would come with additional responsibilities and several new regulations. These regulations would only apply while the RRO was still in effect, and would expire when the RRO was completely phased out. For example, the government would define a new name for the RRO, and it would limit the ability of the current RRO provider to market the service. Any current provider who offered the new, renamed default service would be able to market new products and services just like any other retailer, but would not be allowed to market the default service or to suggest in any way that the default service was a government service or a better service.

Government could also require the distribution of information about competitive choices in the market, about the end of the regulated rate tariff, and what will happen if they do not choose a retailer. In addition, the government could place restrictions on branding and on the use of common logos for default service, distribution utility service and utility affiliates. Furthermore, if there were problems with price levels or service stability, the default service provider would not have the government to blame since the provider would be responsible for the procurement mechanism.

Figure 46.

Deregulate the current Regulated Rate Option and create a provider of last resort.


Wire owner
Affiliated regulated rate provider
Own service area:
• City of Lethbridge
• Some REAs
• Enmax Energy (Calgary)
• Epcor Energy Alberta (Edmonton)
Unaffiliated regulated rate provider
Multiple service areas:
• Direct Energy (Atco, somes REAs)
• Enmax Energy (Town of Cardston, Municipality of Crownest Pass, Town of Fort MacLeod, Town of Ponoka, City of Red Deer)
• Epcor Energy Alberta (FortisAlberta, some REAs)

Option B: Design and deploy a new default rate.

Option B is intended to establish a permanent retail market choice for consumers.

Option B should be pursued if the Government of Alberta believes that retail electricity competition has failed or will proceed very slowly, and that there is a need to protect small consumers. Recall that certain stakeholders stated that the default rate provides one or more of the following functions:

- an option for consumers who do not want to sign retail contracts
- a benchmark against which people can gauge retailers' products
- a stable, no frills, low-cost option
- a specific mechanism for protecting vulnerable customers

Earlier, the Retail Market Review Committee explained why the current default rate (RRO) does not provide these functions. But what if government wants to create a default service that is desired by consumers and that satisfies other criteria?

The Retail Market Review Committee's consumer survey shows that some consumers want stable rates, while others want the lowest rate and are willing to accept some volatility in exchange for lower rates. Option B presents government with at least three choices for the rate design and resource procurement strategy:

- hedged procurement of energy (longer term procurement and more stable pricing than the current RRO)
- forward-month procurement (prompt month with improvements to the current RRO)
- pool price flow-through default rate (lower rates and greater volatility than the current RRO)

Should the government prefer Option B over Option A, then the committee has prepared a discussion of the considerations within B with respect to procurement and implementation. (See inset.)

Limitations

Option B is intended to establish a permanent or semi-permanent retail market choice for consumers. The three ways of implementing Option B would each represent a government-approved rate that would compete with retail electricity providers. There would be regulatory uncertainty about the design of the rate in the future. Option B would signal to potential new entrants that the Government of Alberta is willing to design services that many Albertans prefer, and that directly compete with customer choices already in the retail electricity market.

The Committee's Position

Option B is not optimal. Variations of Option B1, hedging, are in use in several U.S. states, with little success.

ALTERNATIVES TO THE COMMITTEE'S PRIMARY RECOMMENDATION TO PHASE OUT THE CURRENT RRO

If the government determines that it will not phase out the RRO in the next two to three years, then it should create a new default rate. Three approaches can be taken:

B1: Hedged Energy Procurement. A longer-term procurement approach could offer pricing stability. Procurement would be defined in terms ranging from several months to several years. Different tranches of resource need would be acquired at different periods to create a portfolio of resource and costs.

Longer-term or hedged energy procurement is fundamentally inconsistent with the development of a competitive electricity retail market, and cannot be supported. Activities in other jurisdictions have demonstrated that it discourages market entry and the development of new products and services.

B2: Enhanced Forward-Month Procurement. If government decides to keep the default rate in its current form, the committee recommends making the following changes. a) Increase the procurement window 45 days to three to six months. This would likely dampen volatility by allowing buyers to avoid rising forward prices in the prompt month. b) Standardize the procurement method and adopt the weekly NGX auction approach that is currently used by Epcor. This is likely to increase transparency and lead to lower procurement costs.

Forward-month or prompt-month procurement is well established, and its continuation would be the least disruptive to the status quo. Since forward-purchased stable price offerings directly compete with retailers' core business scope, removing this procurement method might open up new retail product offerings. In Alberta, forward-month procurement has encouraged the development of new products and services and increased market entry. The current approach could be modified to make it better.

B3: Pool Price Flow-Through. Although pool price flow-through offers no price stability, it is a simple, flexible policy both for consumers and for retail electricity providers. The pool price flow-through rate, which simply reflects wholesale market conditions, can be widely publicized to inform customers about current market conditions.

Pool price flow-through has the benefits of transparency and simplicity, but would compete with a number of existing retail offerings. That said, pool price flow-through is the option most distant from the core business scope of many of the most active retailers.

Any of these alternatives could be provided by competitive retailers. Removing the obligation for monopoly distribution utilities to provide this service would be a positive step. As Atco observed in its submission to the Retail Market Review Committee, all distribution facility owners have contracted a designee to provide these services, owners themselves no longer have the skills or capability to provide the RRO.

Adopting any of these alternatives presents a number of issues:

Price protection. The need for price protection for the 40-60% of customers who are disengaged from the market is a significant consideration in some jurisdictions.

The level of customer concern with being assigned to a competitive retailer might well be correlated with the degree of price protection provided, but this is a complex issue. As history has shown, price protection purchased at an inopportune moment can increase the prices customers pay. In 2001, customers were locked into long-term prices far higher than pool price; in January 2012, customers were locked into prompt month prices far higher than pool price. The only alternative that provides price protection in relation to the pool price is the pool price itself.

Providing price protection would impose a regulatory burden on competitive suppliers, which is out of keeping with a competitive market structure. Each proposed alternative imposes a different regulatory burden. A pool price flow-through option would have a reduced regulatory burden, as compliance confirmation would be trivial. A longer-term procurement option would have substantially increased regulatory burdens, as product risk would be greater and portfolio prudence assessment could be complex and contentious.

Competition with competitive offers. Alberta's market has not developed multi-month products with term lengths between pool price flow-through and multi-year fixed prices. This may reflect customer barriers to switching, retailers' high cost of customer acquisition and the presence of a prompt month RRO product, which has had a chilling effect on multi-month product offerings.

Implementing mandatory, long-term procurement subject to regulatory review, prudential assessment and risk allocation would create a regulated alternative that would compete directly with retailers' core business. Customers might in many respects be better served by a return to full cost-of-service-based regulation than by such a hybrid approach, which would essentially sterilize the retail market.

Pool price flow-through would also sterilize a segment of the retail market, as several retailers currently offer pool price flow-through products. However, it can be argued that customers are paying for the pool and market infrastructure that provides this option, and that retailers should be competing on value-added services, not on extracting profits for providing what the market provides at no charge—namely, hourly consumption information and hourly prices.

Consistency with policy: The fundamental retail market policy enables customers to choose from a range of services in the Alberta electric industry, including a flow-through of pool price and other options developed by a competitive market. Pool price flow-through is clearly considered a fundamental service offering. The *Regulated Default Supply Regulation* specified that pool price flow-through was to be the long-term default service offering provided by distribution system owners. The current Regulated Rate Option establishes the current policy to be prompt month procurement. At market opening in 2001, longer- term hedge procurement was the approved policy. It is, however, profoundly inconsistent with the development of a competitive retail market.

	B1. Hedged Energy Procurement	**B2. Enhanced Forward-Month Procurement**	**B3. Pool Price Flow-Through**
1. Price protection for consumers who choose not to choose	Considerable and complex regulatory oversight	Significant but well established regulatory oversight	Low regulatory oversight
2. Competition with competitive offers	Highly invasive of established retail product space	Little impact	Highly invasive of new retail product space
3. Consistency with policy to encourage competition	Inconsistent	Consistent with current policy	Consistent with past policy

If a default rate is continued in any form, the word "regulated" cannot be included in its name. The proposed rate is not regulated in the way that previous rates were. The actual rate is not approved by a regulator, and continuing to call it regulated is confusing and misleading. The committee recommends that the proposed rate simply be called the "default rate," and that this name be used on customer bills.

The Retail Market Review Committee does not consider any of the alternatives listed above superior to the recommendation to phase out the RRO.

The committee's strong recommendation is that customers currently served under the Regulated Rate Option be transferred to unconstrained competitive retail service once major barriers to market entry and growth have been addressed.

The Committee's Recommendation

The Retail Market Review Committee believes the government must select Option A to signal that the usefulness of the current default rate has passed, and that the current RRO will be phased out. A new, different type of default rate—a "provider of last resort" default rate—will be created. This action alone will cause the following changes:

- reduced regulatory uncertainty
- less focus on the RRO as a benchmark for pricing
- increased competition among product and service choices in the market
- increased interest in the Alberta market by outsiders

The committee discussed a transition time frame of two to four years, but other recommendations in this report may take time to implement. Even if the precise date for retiring the default rate is not known, the actions of market participants will be affected by the announcement of a decision to eliminate this major remaining barrier to entry and major source of uncertainty.

The committee's key recommendation is to reduce uncertainty by stating, as soon as possible, that Option A is preferred, that the current RRO will be phased out, that a provider of last resort service will be created, and that the Alberta retail electricity market is open for business.

Managing the Transition

Regardless of the path chosen, there are decisions to make with regard to assigning consumers who have not yet chosen to a service provider. In the old days of utility regulation, consumers were assigned without choice to the utility that served their area.[9] When the market in Alberta was restructured, the law required distribution utilities to provide default service or to assign someone to provide default service to customers in their area. When the market opened the former monopoly customers were given the option to select a new retail electricity provider.

The Alberta government must once again consider the electricity market and its structure, and decide how to increase consumer choice. Consumers who do not take an active part in the new marketplace must be assigned. If the status quo is preferred, government will reaffirm its assignment of customers to the distribution utility and default service provider. If the current RRO is phased out, a different assignment will occur. In either case, consumers will have choice in selecting a retail electric provider.

As a practical matter during the phase out period, government should define all RRO providers as retailers. It should then phase out the RRO requirement when the suitable transition period has passed. This would eliminate the assignment of customers to new providers, and reposition today's providers as participants in a competitive market. All consumers will remain with their current provider until they choose a new retail electricity provider.

The greatest value to all consumers is likely to arise from the creation of a robust competitive market that increases choices for all consumers. It must be recognized that some consumers "choose not to choose." Government cannot not deny these consumers electricity service. Nor should government design a system that serves the interests of non-choosing customers to the detriment of other consumers who prefer to choose. It is important to remember that 81% of consumers said they value the ability to choose, even though many have not exercised it.

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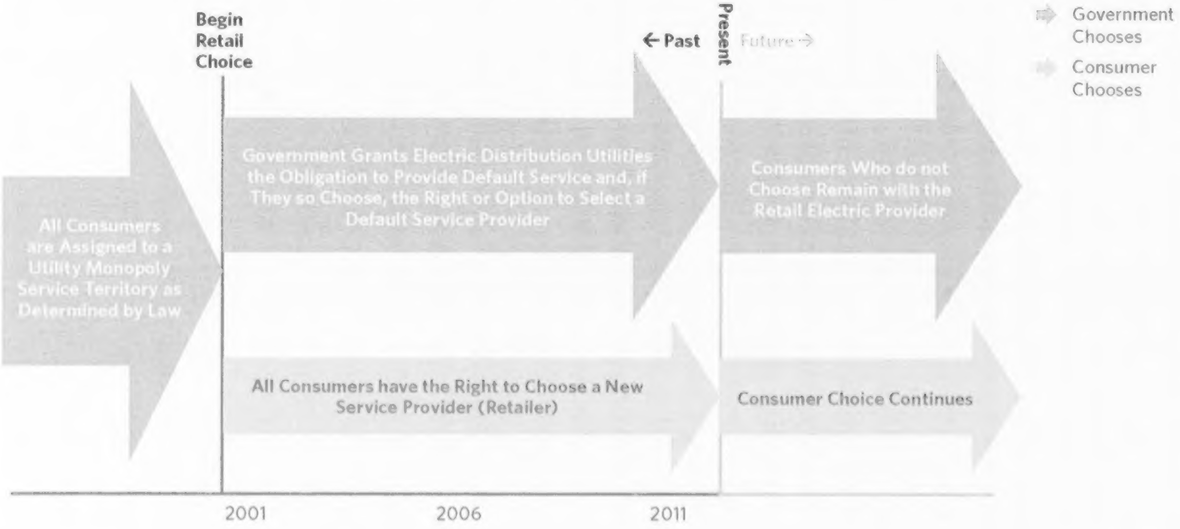
[9] There are a few exceptions. In rural areas, someone could make an investment in distribution wires to tie into an existing rural electrification association, or connect to the utility assigned to that service territory. REAs exist because the utility option was not realistic.

Figure 47.

Government versus consumer assignment


Begin Retail Choice
← Past
Present
Future →
Government Chooses
Consumer Chooses
All Consumers are Assigned to a Utility Monopoly Service Territory as Determined by Law
Government Grants Electric Distribution Utilities the Obligation to Provide Default Service and, if They so Choose, the Right or Option to Select a Default Service Provider
Consumers Who do not Choose Remain with the Retail Electric Provider
All Consumers have the Right to Choose a New Service Provider (Retailer)
Consumer Choice Continues
2001
2006
2011

Summary of Recommendations: Default Rate Options

The Retail Market Review Committee anticipates the Alberta government will be engaged in instituting market reforms that will take approximately 12 to 48 months. Some major system reforms will take longer. While phasing out the current RRO will wait for certain reforms, the announcement of the government's intention cannot wait. The presence of a default rate is a significant impediment to the development of a competitive retail market, and the announcement of its demise will be significant.

The committee recommends the following:

33. Establish regulations that specify how the provider of last resort is selected, the duration of the service by the provider, terms of service for customers, responsibility for oversight and customer protection measures.

34. Set a date certain that phases out the regulated rate as soon as possible, but no later than 2015, allowing sufficient time for barriers to entry and switching to be addressed and for the provider of last resort service to be set up.

35. Amend Sections 103, 104 and 105 of the *Electric Utilities Act* to remove the obligations of owners of electric distribution systems to prepare a regulated rate tariff, act as a regulated rate provider for any customers, or to assign another entity to carry out those functions.

36. Amend the *Regulated Rate Option Regulation* to ensure a smooth transition for customers who are still on the regulated rate tariff by leaving them with their existing regulated rate providers (as defined in the *Electric Utilities Act*) when the default rate is phased out.

37. If a distribution system owner that currently provides the RRO (directly or through an affiliated retailer) no longer wishes to serve RRO customers, the owner must give notice to the Minister of Energy prior to the phase-out of the existing default rate. The current provider must find a replacement RRO provider that does want to serve customers. It must inform its customers about other available retail options and about any pending transfers in time for them to choose for themselves if they do not wish to have their current provider choose a retailer for them. The Department of Energy must set notice periods and determine what information must be provided to customers.

38. If a distribution system owner has a retail affiliate, customers in the owner's service area cannot simply be transferred to the affiliate without notice when the default rate is phased out. The Department of Energy must determine what information is provided to customers. It must also ensure that the regulated rate provider gives customers notice about their options.

39. Municipalities and rural electrification associations that own distribution systems and that do not serve customers outside their service areas may provide default service as they choose, as long as they comply with the Alberta Utility Commission's rules set out in the Tariff Billing Code and the System Settlement Code, and with rules regarding enrolment, de-enrolment and disconnection practices.

40. Amend the *Regulated Rate Option Regulation* to extend the window on forward procurements from the current limit of 45 days ahead to a longer period of three-to-six months ahead. Standardize the procurement mechanism to require that all regulated rate providers use NGX auctions, as Epcor does.

41. Amend the *Regulated Rate Option Regulation* to reduce the consumption limit for RRO eligibility to 50 megawatt hours per year.

Glossary[1]

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[1] The definitions in this section were adapted from the following sources. (Complete citations are included in the bibliography. See p. 174.)

Alberta Advisory Council on Electricity, "Report to the Alberta Minister of Energy," 2002.

Alberta Electric System Operator, *2012 Long-term Transmission Plan* (2012l), "Power Lingo" (2010f), and *Powering Albertan* (2007, 2010g).

Alberta Utilities Commission, *Alberta Smart Grid Inquiry*, 2011.

Office of Gas and Electricity Markets, *Liquidity in the GB Wholesale Energy Markets*, 2009.

BusinessDictionary.com, 2010.

Jason Wei, *A Layman's Guide to Financial Terms*, 2005.

Webster's Online Dictionary.

Alberta Electric System Operator ("the AESO")	Established in 2003, the AESO is an independent, not-for-profit agency that operates the province's power pool and grid—the interconnected system of transmission and distribution facilities that carries electricity from generators to consumers. The AESO acts in the public interest of Albertans. It has no financial interest or investment in the electricity industry. The AESO serves the role of Independent System Operator (ISO) as defined in the *Electric Utilities Act*.
Alberta Utilities Commission	An independent, quasi-judicial, non-governmental tribunal that regulates the cost of providing electricity distribution, transmission and default rate (RRO) service. The AUC sets rules and business practices and establishes service quality standards for the conduct and operation of Alberta's retail and wholesale electricity market. The Alberta Utilities Commission was created in 2008 to replace the Alberta Energy and Utilities Board.
alternating current (AC)	Electricity that switches direction, alternately flowing forward and then backward about 60 times per second. The bulk of North America's electricity system uses alternating current.
ancillary services	Electricity reserves and other services that ensure the safe, efficient and reliable operation of an electricity system. The most common type of ancillary service is operating reserves—supplies of energy that can be called upon when needed to balance supply and demand. Other types include transmission-must-run service (which corrects for local imbalances), black start service (to restart the system in case of a blackout) and load shed service (which automatically shuts down parts of the system when there is an unexpected disturbance).
bad debt	A financial debt that cannot be collected from the party that owes it. Electricity distribution companies can recover bad debt through rates charged to all customers.
Balancing Pool	The corporation (established under the *Electric Utilities Act*) responsible for managing power purchase arrangements and other generation assets that were created when the electricity industry was restructured. The Balancing Pool manages these assets and their associated financial accounts on behalf of all electricity consumers in Alberta.
barrier to entry	A factor that may restrict a company's ability to enter a market.
bid	In the wholesale electricity market, the price quoted for an immediate purchase of electricity. Retailers, distribution system owners and other market participants submit bids to purchase electricity from the power pool (wholesale market).
bid-offer spread	The difference between the price quoted for an immediate purchase of electricity (bid) and the price at which electricity is offered for sale (offer). Bid-offer spread is often used as a measure of market liquidity. The narrower the spread, the more liquid the market, and the more easily buyers and sellers can interact without incurring significant transaction costs.
bilateral contract	In the forward market for electricity, a contract that a buyer and a seller arrange directly with one another that specifies the sale and purchase of electricity at some date in the future.

biomass	Vegetation, plant material (such as peat or wood chips), food-processing waste or agricultural waste (such as manure or grain byproducts) that is used as an energy source. A small portion of Alberta's electricity supply is generated from biomass.
capacity	A measure (in megawatts) of the output of a power plant. The maximum sustainable amount of electricity that can be generated or carried in an instant. The amount of electricity delivered to or required by an electric system component such as a power plant, turbine or transmission circuit.
cogeneration	The simultaneous production of electricity and useful heat from the same fuel source in the same plant.
combined cycle generation	A system in which a gas-powered turbine generates electricity, and the waste heat that is produced creates steam that powers a steam turbine to generate additional electricity.
commodity	A product that can be bought, sold or traded. A basic good used in commerce. A commodity is interchangeable with other raw or basic good of the same type.
congestion	The situation that arises when there is a mismatch between power offered and the ability of the transmission lines to deliver that power, blocking the path between generators and consumers. A congested transmission system is a bit like a traffic jam on a highway. Too much electricity running through the system at a particular point in time limits the ability of some generators to move their power to various locations.
contract for differences	An agreement between a buyer and seller on a fixed price for electricity generated and bought over some time period. It is called a contract for differences because it depends on the difference between the agreed-upon contract price and the actual wholesale price. If the wholesale spot price is above the contract price, then the generator rebates the difference to the buyer. If the wholesale price is less than the contract price, then the buyer makes up the difference to the generator. A contract for differences allows both sides to manage risk by guaranteeing what the seller can get for electricity produced and what the buyer has to pay for that electricity.
counterparty	In the financial services industry, the broker or securities dealer that serves as the contracting party in an over-the-counter securities transaction.
counterparty risk	The risk that a counterparty to a contract defaults and fails to meet contractual obligations.
default rate	The rate paid for default service. In Alberta, people who use less than 250,000 kilowatt hours of electricity per year, and who have not selected a retail electricity provider, pay the default rate. Since 2006, this rate has been called the "Regulated Rate Option" or RRO.
default service	Also known as standard or basic service. Default service is the term used to refer to electricity services provided to consumers during a transition from a regulated to a deregulated electricity industry. Albertans who receive default service pay the default rate.

demand	A measure of the amount of electricity needed and used by customers. The demand for electricity is measured instantaneously as the total load on the system.
demand response	With regard to electricity, the actions of consumers in response to power prices.
deregulation	With regard to electricity, the process of replacing regulation-based price setting, which uses a cost of service model, with open markets where prices are determined through competition.
direct current (DC)	Direct current is electricity that flows in one direction. In some parts of North America, direct current is used for long-distance transmission because there are fewer line losses than with alternating current and because DC cables and towers are cheaper to build. Special converter stations are needed to convert direct current back to alternating current-based systems.
distributed generation	Small power generation units connected to the electricity system at or below distribution voltage.
distribution	The delivery of electricity from a transmission system to the customer's meter.
dispatch	The real-time process by which an electricity system operator directs suppliers or purchasers to provide or remove a specific amount of electric energy from the system.
electric energy	As defined in Alberta's Electric Utilities Act, the capability of electricity to do work, measured in kilowatt hours.
electric system	The technical name for an electricity system.
electricity system	The interconnected system of generating plants, substations and power lines that carries electricity from producers to consumers. Also called an electricity system or a transmission system or a grid.
embedded cost	See stranded cost.
energy-only market	The power pool is an open-access, energy-only competitive market for electric energy supply. The *Electric Utilities Act* stipulates that all electricity traded in the province will be bought and sold through the pool. All generators are obligated to offer their power into the pool and are paid the hourly pool price for the energy they produce. The price is determined through supply and demand and set by the power pool itself. This means that market forces, not regulators, drive the industry. [Link to [price signal sidebar in a previous section] In an energy-only market, generators are only paid for the actual electricity they produce and offer to the market. In a capacity market, by contrast, generators are paid for the availability of their capacity to supply energy: they receive a fee whether energy is produced or not.
fair market value	The price at which willing sellers and willing buyers are prepared to enter into a commercial transactions.
fixed cost	A cost that does not change in response to a business-related activity or in response to the amount of product or work produced. For example, the interest paid on money borrowed to build a generating plant is the same whether that plant produces 10,000 or 100,000 kilowatt hours of electricity in a particular month. The interest is a fixed cost.
flat power contract	A contract that covers each hour in each day of the contract period.

forward contract	An agreement to buy or sell a commodity at a set price on a future date.
forward market	A market in which commodities are bought and sold in advance of actual production.
forward trading	The trading of commodities that will be delivered at a future date.
generation	The production of electricity.
grid	A centrally operated, interconnected network of generating plants, substations and power lines. Also called a transmission system.
heat rate	A measure of the efficiency of a generating plant that is powered by a thermal energy source such as coal or natural gas. The heat rate is the amount of fuel energy input needed to produce one kilowatt hour of electricity. The higher the heat rate, the lower the efficiency of the plant.
hedging	A financial arrangement intended to reduce or eliminate the risk of unexpected price changes.
Herfindahl Hirschman Index (HHI)	A measure of market concentration. HHI decreases as the number of firms in a market increases.
Independent System Operator (ISO)	A non-governmental corporation created under the *Electric Utilities Act*. The ISO is responsible for the "safe, reliable and economic operation" of Alberta's electricity transmission grid and for the "fair, efficient and openly competitive" operation of the province's electricity market. Since 2003, the role of Independent System Operator has been served by the Alberta Electric System Operator.
interconnection	The electrical connection (lines and transformers) that links power generating plants or large industrial customers to the transmission system.
intertie	High-voltage power lines and transmission system equipment that connect neighbouring power systems.
interval meter	See time-of-use meter.
kilowatt	1,000 watts. (Watts are the unit of power used to measure electricity.)
kilowatt hour	A unit of electricity consumption that equals the work done by one kilowatt acting for one hour.
liquidity	A measure of the ease with which market participants can buy or sell a product without causing a significant change in its price and without incurring significant transaction costs. Liquid markets are characterized by large trading volumes and large numbers of buyers and sellers.
load	The electric power used by devices connection to an electricity system. The total amount of electricity that is needed to meet customer demand at any given time. Load can be measured for the electricity system as a whole or for a specific point such as a city, town or home. The demand for power on an electricity system.
load factor	A ratio of the average demand over a period of time to peak demand for that time.
load settlement	The process of determining the hourly consumption of electricity for each customer in Alberta.

market power	The ability of a company to influence supply and price in a competitive market. Companies that are large enough to wield market power create barriers to the entry of new competition.
Market Surveillance Administrator (MSA)	Established in 2007, the Market Surveillance Administrator is a monitor, reporter, investigator and advisor for Alberta's electricity industry. One of the MSA's roles is to protect and promote the fair, efficient and openly competitive operation of Alberta's wholesale and retail electricity markets.
merit order	In the electricity wholesale market, the ranking of supply offers according to price. The lowest-priced power is dispatched first.
meter	A device that measures and records the quantity of electricity that is produced, transported or consumed.
microgeneration	In Alberta, the use of environmentally friendly sources to generate between 0.15 and 1 megawatt of power for personal use.
offer	In the electricity wholesale market, the price at which electricity is offered for sale. Generators and importers make offers to sell electricity to the market (power pool).
Office of the Utilities Consumer Advocate (UCA)	Established in 2003 under the *Government Organizations Act*, the UCA champions the interests of Alberta consumers and provides information and advice to help Albertans make informed choices about purchasing electricity and gas.
over-the-counter trading	Trading that is negotiated through brokers and dealers connected by telephone and computer networks. Unlike a formal exchange, an over-the-counter market does not have physical location at which trades are conducted.
peak electricity demand	The maximum amount of electricity used on the system in any given time period. Peak demand can be measured for a customer, a group of customers or the system as a whole. per hour. Peak demand is a measure of the amount of power needed to serve all customers during times of high power use. Peak demand is measured in kilowatts or megawatts. It is often stated as the highest hourly consumption of electricity during a year.
pool price	The real-time cost of electricity sold to or purchased from the wholesale electricity market. Pool price is determined by the system marginal price, which is the price at which supply equals demand.
power pool	Alberta's wholesale electricity market.
power purchase arrangement	A long-term contract (maximum 20 years) set for regulated generating units.
procurement	The purchase of electrical energy for resale to consumers.
provider of last resort (POLR)	A retail electricity provider that provides a last-resort service to consumers who have lost their normal retail electricity provider.
provider of last resort (POLR) service	A last-resort electricity service available to consumers who have lost electrical service by accident and through no fault of their own. For example, if a retail electricity provider leaves the market without notice, that provider's customers would automatically receive POLR services until they could make arrangements with a new provider.

prudential requirements	The security payments an agency requires to ensure a company will meet its financial obligations.
public utility	A corporation that provides an essential commodity or service to the public.
real time	The actual time when a process (such as electricity generation) occurs.
Regulated Rate Option (RRO)	The current default rate for Albertans who use less than 250,000 kilowatt hours of electricity per year.
reserve capacity	The amount (usually a percentage) of total installed generating capacity that must be available, on short notice, to power the grid when capacity is lost as a result of system failures or generator shut-downs.
retail electricity provider	A company that sells electricity directly to customers who do not purchase power on the default rate. A retailer of electricity services to non-default-rate customers.
retailer	See "retail electricity provider."
risk premium	The additional return a default rate provider requires to cover the cost of dealing with risks associated with providing electricity services, especially when prices, volumes and actual patterns of consumption are not known in advance.
rural electrification association (REA)	A not-for-profit rural cooperative that owns an electricity distribution system and provides and distributes electricity to its member. The establishment of REAs is governed by the *Rural Utilities Act*.
self-retailer	A customer who obtains electricity for his or her own use. Many self-retailers rely on self generation, especially through the cogeneration of process heat and electricity on the customer's premises.
service agreement	In this document, a contract for retail electricity services. Most retail electricity service agreements can be easily terminated with no exit fees.
simple cycle generation	A system in which a gas-powered turbine generates electricity.
smart meter	A meter equipped with automatic, self-contained interval metering and two-way communications capability.
spot price	The price for the immediate delivery of electricity.
spot market	Alberta's wholesale electricity market.
spot trading	Trading for delivery on the same day as the trade.
stranded benefit	Energy efficiency programs, environmental programs or other benefits to consumers for which a power plant owner curtails investment as the result of increased competition and lower profit margins.
stranded cost	Money already spent and partially or totally irretrievable. Also called embedded cost or sunk cost. In the electricity industry, stranded cost is typically the difference between the book value and the market value of an asset such as a power plant that was built with regulatory approvals. This difference may be deemed recoverable through charges that cannot be avoided.

system marginal price (SMP)	In Alberta's wholesale electricity market (power pool), the price at which demand for electricity equals supply. SMPs are calculated for each minute of an hour. The time-weighted average of SMPs for a particular hour sets the pool price for that hour.
tariff	A price list
time-of-use meters	Meters that measure both the amount of power consumed and the time of day at which consumption occurred.
transaction cost	A cost incurred to complete a sale or purchase.
transformer	An electrical device that changes the voltage of alternating current.
transmission	The transfer of high-voltage electricity over interconnecting lines that link points of supply to points where the energy is delivered to other electric systems or transformed to low voltage for distribution to consumers.
transmission system	A centrally operated, interconnected network of generating plants, substations and power lines. Also called an electricity system or a grid.
uplift	A payment made to an electricity generator when system stability requirements make it necessary for the generator's offered production to be dispatched out of merit order or when system congestion prevents generators from dispatching their production. The uplift payment is the difference between the pool price paid to the generator and the generator's offer price. Uplift costs are charged to consumers.
Utilities Consumer Advocate	See "Office of the Utilities Consumer Advocate."
utility	See public utility.
variable cost	A cost that changes in response to a business-related activity or in response to the amount of product or work.
vertical integration	A operational structure in which one supply group owns two or more parts of the supply chain. In a vertically integrated utility system, utility companies are responsible for the generation, transmission, distribution (local delivery) and retailing of electricity in defined service areas.
volatility	With reference to prices, the tendency to vary frequently and widely between one time period and another.
watt	The unit of power used to measure electricity. The watt—which takes its name from James Watt, the inventor of the steam engine—is a very small unit of power. Nearly 750 watts equal one horsepower.
wholesale market	Alberta's open-access, energy-only competitive market for electric energy supply. The wholesale market (also called the power pool) functions as a spot market, matching demand for electricity with the lowest-cost supply to establish an hourly pool price. Suppliers receive pool price for the electricity they supply; buyers pay pool price for the electricity they purchase
wire owners	can be transmission or distribution facility owners

Abbreviations

Electricity-related Terms

AREP	affiliated retail electricity provider
GW	gigawatt (1,000,000,000 watts)
GWh	gigawatt hour (A unit of electricity consumption that equals the work done by one gigawatt acting for one hour).
kW	kilowatt (1,000 watts)
kWh	kilowatt hour (A unit of electricity consumption that equals the work done by one kilowatt acting for one hour).
MW	megawatt (1,000,000 watts)
MWh	megawatt hour (A unit of electricity consumption that equals the work done by one megawatt acting for one hour).
POLR	provider of last resort
REP	retail electricity provider
RRO	Regulated Rate Option
TFO	transmission facility owner

Organizations and Programs

AAMDC	Alberta Association of Municipal Districts and Counties
AESO	Alberta Electric System Operator
AFREA	Alberta Federation of Rural Electrification Associations
AISH	Assured Income for the Severely Handicapped
AUC	Alberta Utilities Commission
AUMA	Alberta Urban Municipalities Association
CCA	Consumers' Coalition of Alberta
CFIB	Canadian Federation of Independent Business
DOE	Alberta Department of Energy
IPCAA	Industrial Power Consumers Association of Alberta
IPPSA	Independent Power Producers Society of Alberta
MSA	Market Surveillance Administrator
NGX	Natural Gas Exchange
UCA	Utilities Consumer Advocate (formally, the Office of the Utilities Consumer Advocate)

Submissions and presentations to the Retail Market Review Committee are included the bibliography. They can also be accessed on www.rmrc.ca.

For a list of stakeholders and expert agencies that submitted materials, see p. 34.

Table 14. Legend for abbreviated text citations

Alberta Advisory Council on Electricity	Alberta Advisory Council
Alberta Agriculture and Rural Development	Alberta Agriculture
Alberta Department of Energy,[2] or Alberta Department of Energy, Electricity Markets Branch, or Alberta Energy	DOE
Alberta Electric System Operator	AESO
Alberta Human Services	Alberta Works
Alberta Utilities Commission	AUC
Energy Resources Conservation Board	ERCB
Market Surveillance Administrator	MSA
Natural Gas Exchange	NGX
no date	n.d.
no page	n.p.
Utilities Consumer Advocate	UCA

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[2] Additional documents are listed under Alberta Resource Development (a former name for the Department of Energy).

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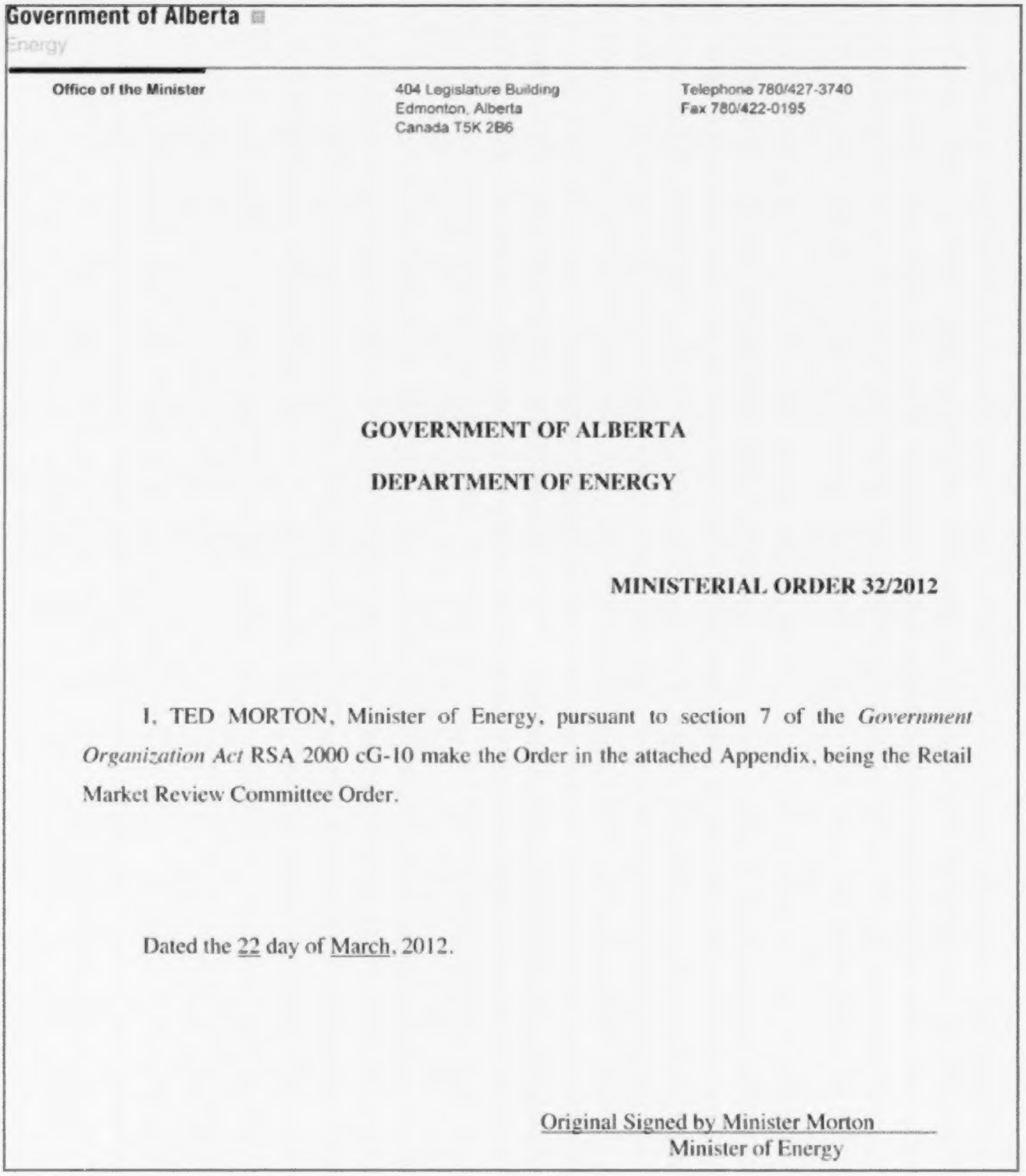
Appendix

1

About the Consultation

The Ministerial Order and Terms of Reference



Government of Alberta ■
Energy

Office of the Minister

404 Legislature Building
Edmonton, Alberta
Canada T5K 2B6

Telephone 780/427-3740
Fax 780/422-0195

GOVERNMENT OF ALBERTA

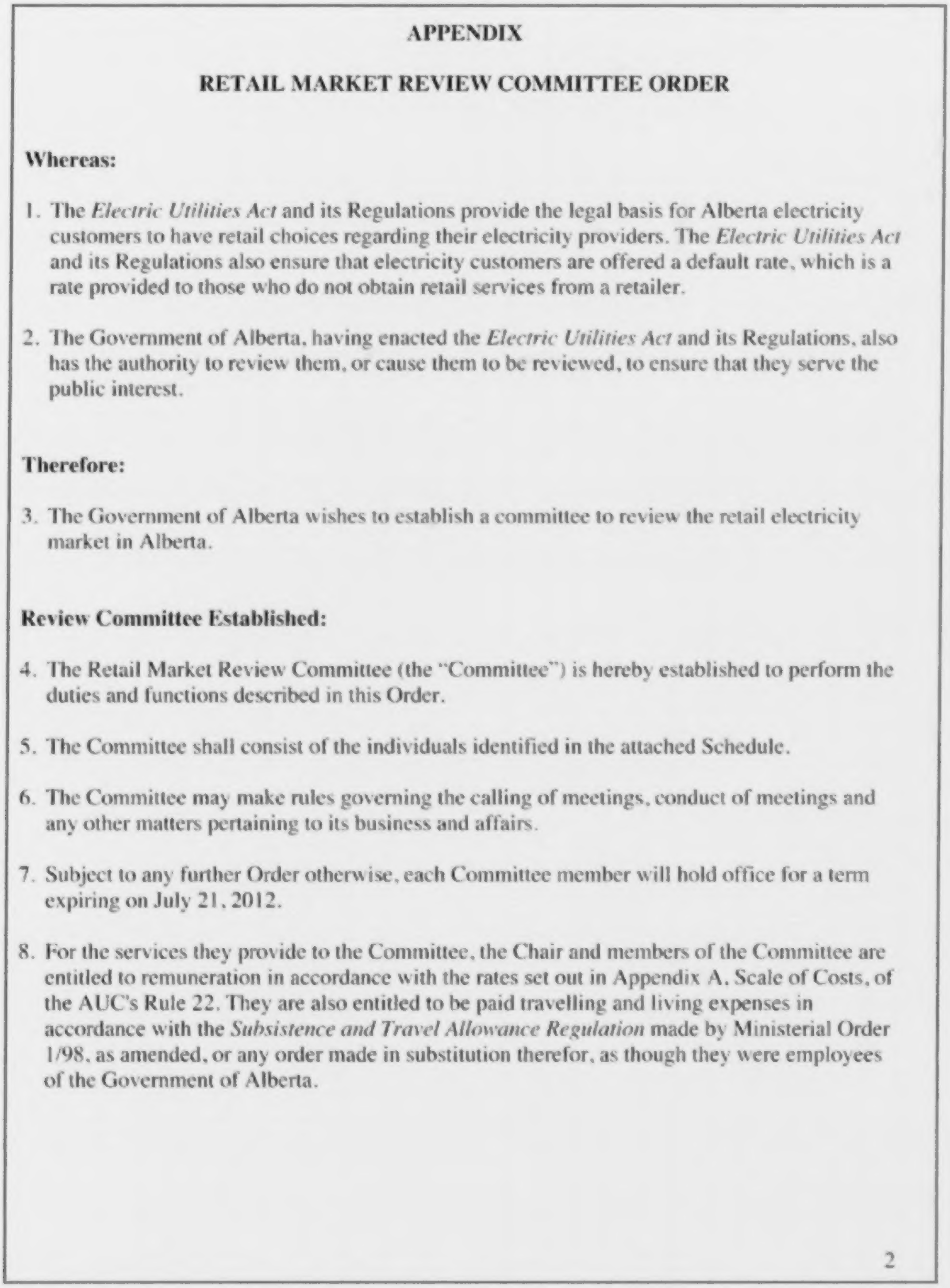
DEPARTMENT OF ENERGY

MINISTERIAL ORDER 32/2012

I, TED MORTON, Minister of Energy, pursuant to section 7 of the *Government Organization Act* RSA 2000 cG-10 make the Order in the attached Appendix, being the Retail Market Review Committee Order.

Dated the 22 day of March, 2012.

Original Signed by Minister Morton
Minister of Energy



APPENDIX

RETAIL MARKET REVIEW COMMITTEE ORDER

Whereas:

1. The *Electric Utilities Act* and its Regulations provide the legal basis for Alberta electricity customers to have retail choices regarding their electricity providers. The *Electric Utilities Act* and its Regulations also ensure that electricity customers are offered a default rate, which is a rate provided to those who do not obtain retail services from a retailer.

2. The Government of Alberta, having enacted the *Electric Utilities Act* and its Regulations, also has the authority to review them, or cause them to be reviewed, to ensure that they serve the public interest.

Therefore:

3. The Government of Alberta wishes to establish a committee to review the retail electricity market in Alberta.

Review Committee Established:

4. The Retail Market Review Committee (the "Committee") is hereby established to perform the duties and functions described in this Order.

5. The Committee shall consist of the individuals identified in the attached Schedule.

6. The Committee may make rules governing the calling of meetings, conduct of meetings and any other matters pertaining to its business and affairs.

7. Subject to any further Order otherwise, each Committee member will hold office for a term expiring on July 21, 2012.

8. For the services they provide to the Committee, the Chair and members of the Committee are entitled to remuneration in accordance with the rates set out in Appendix A, Scale of Costs, of the AUC's Rule 22. They are also entitled to be paid travelling and living expenses in accordance with the *Subsistence and Travel Allowance Regulation* made by Ministerial Order 1/98, as amended, or any order made in substitution therefor, as though they were employees of the Government of Alberta.

2

Terms of Reference:

9. The Committee shall conduct itself in accordance with the following terms of reference:

   a) Review, within the context of the competitive retail electricity market in Alberta, the necessity and appropriate design of a default rate for eligible customers and the manner in which non-energy charges that are paid by customers are determined and approved;

   b) Conduct the review with due regard to the following:

      i. Alberta legislation regarding electricity markets, including having due regard to the purposes of the *Electric Utilities Act* as set out in section 5, and section 110 thereof;
      ii. The articulated policies of the Government of Alberta, including, without limitation, the June 2005 paper entitled "Alberta Electricity Framework: Competitive, Reliable, Sustainable";
      iii. The costs included in the current regulated rate option (RRO); and
      iv. Alberta's regulatory structures and market structures.

   c) The following are not within the scope of the Committee's review:

      i. Local access fees; and
      ii. The Alberta Utilities Commission.

10. The Committee shall conduct its review in an open and transparent manner, using procedures and processes to ensure that Alberta electricity customers are appropriately represented before the Committee.

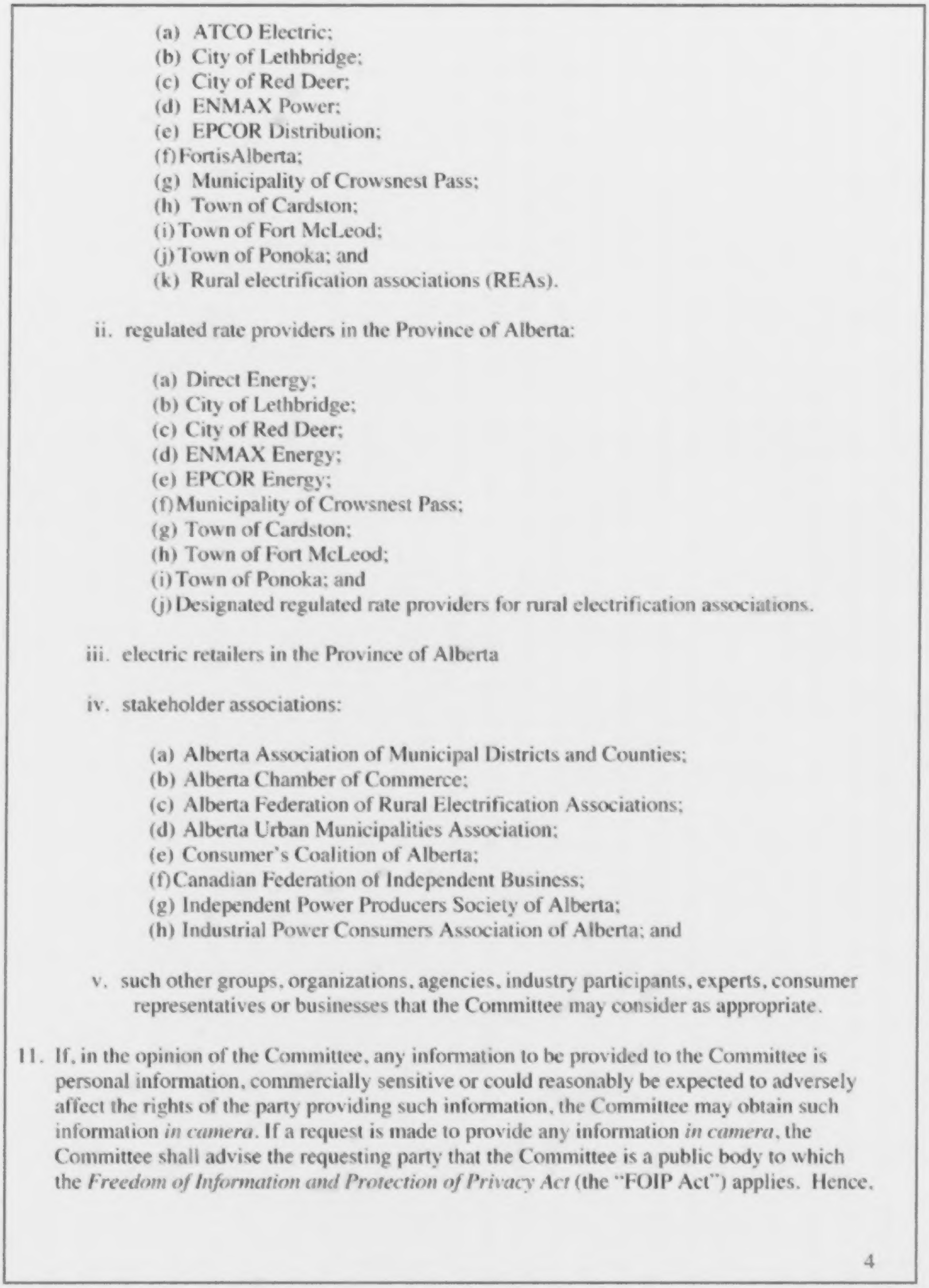
   a) The Utilities Consumer Advocate (UCA) will advocate before the Committee, on behalf of consumer interests regarding all matters that will be reviewed by the Committee.

   b) Before obtaining inputs from other stakeholders, the Committee will obtain and consider expert inputs on the current rules, Regulations, processes, functioning and situation in respect of RRO, competitive retail market and other charges on an electricity bill from the following organizations:

      i. Alberta Department of Energy;
      ii. Alberta Utilities Commission;
      iii. Market Surveillance Administrator;
      iv. Service Alberta;
      v. Alberta Human Services;
      vi. Alberta Agriculture and Rural Development; and
      vii. other experts as the Committee may require.

   c) The Committee will obtain and consider inputs from the following organizations:

      i. electric distribution owners in the Province of Alberta:



- (a) ATCO Electric;
- (b) City of Lethbridge;
- (c) City of Red Deer;
- (d) ENMAX Power;
- (e) EPCOR Distribution;
- (f) FortisAlberta;
- (g) Municipality of Crowsnest Pass;
- (h) Town of Cardston;
- (i) Town of Fort McLeod;
- (j) Town of Ponoka; and
- (k) Rural electrification associations (REAs).

ii. regulated rate providers in the Province of Alberta:

- (a) Direct Energy;
- (b) City of Lethbridge;
- (c) City of Red Deer;
- (d) ENMAX Energy;
- (e) EPCOR Energy;
- (f) Municipality of Crowsnest Pass;
- (g) Town of Cardston;
- (h) Town of Fort McLeod;
- (i) Town of Ponoka; and
- (j) Designated regulated rate providers for rural electrification associations.

iii. electric retailers in the Province of Alberta

iv. stakeholder associations:

- (a) Alberta Association of Municipal Districts and Counties;
- (b) Alberta Chamber of Commerce;
- (c) Alberta Federation of Rural Electrification Associations;
- (d) Alberta Urban Municipalities Association;
- (e) Consumer's Coalition of Alberta;
- (f) Canadian Federation of Independent Business;
- (g) Independent Power Producers Society of Alberta;
- (h) Industrial Power Consumers Association of Alberta; and

v. such other groups, organizations, agencies, industry participants, experts, consumer representatives or businesses that the Committee may consider as appropriate.

11. If, in the opinion of the Committee, any information to be provided to the Committee is personal information, commercially sensitive or could reasonably be expected to adversely affect the rights of the party providing such information, the Committee may obtain such information *in camera*. If a request is made to provide any information *in camera*, the Committee shall advise the requesting party that the Committee is a public body to which the *Freedom of Information and Protection of Privacy Act* (the "FOIP Act") applies. Hence,

the FOIP Act may require or permit records or information to be disclosed pursuant to the FOIP Act.

12. The Committee shall also provide individual consumers an opportunity to provide input through surveys.

13. The Committee shall provide its opinion on the following:

    a) The purpose of the default rate;

    b) Within the context of a competitive retail market, whether there is a continuing need to have a default rate;

    c) If it is determined that a default rate is not required, the provisions that would be required to ensure a "provider of last resort services" are available;

    d) If it is determined that a default rate is required:

        i. The appropriate design principles of a default rate;
        ii. Which customer groups need access to a default rate;
        iii. The appropriate name for such a default rate;
        iv. The appropriate mechanisms for determining its price;
        v. The best delivery mechanism and the entity which would deliver such a rate;
        vi. Alternative default rate design options;
        vii. Risks of these alternative default rate design options;
        viii. How an alternative rate design would accommodate significant swings in consumption volumes;
        ix. Impacts on the regulated rate providers' billing systems of an alternative rate design;
        x. Impact on credit requirements for the regulated rate provider of an alternative rate design; and
        xi. Which costs, in addition to the pure energy cost, are appropriately included in the default rate.

    e) The procurement of energy for a default rate:

        i. Consider and compare methods of procuring the electric energy for the default rate, including:
            (a)The best method and organization to procure energy for a default rate; and,
            (b)If forward purchasing is recommended, assess whether adequate liquidity exists in the forward markets to allow competitive outcomes.

        ii. The impact on the competitive retail market of alternative designs for a default rate, including:
            (a) The impact on the sustainability of the competitive retail market;
            (b) The appropriateness of having a default rate compete with the competitive market; and
            (c) The impact on energy efficiency and conservation incentives for customers.

   iii. If changes are recommended to the default rate, the appropriate timing for implementing any potential changes to the current RRO.

   iv. The availability of adequate protections for vulnerable Alberta electricity customers in terms of electricity costs, including the adequacy of social services supports and how they could be provided.

   v. The most efficient way of ensuring Alberta electricity customer interests are effectively represented when any rates are set.

   vi. The areas and programs that would enhance Alberta electricity customers' knowledge and understanding of electricity markets and electricity costs, and suggested reasonable program costs.

f) The all-in cost of electricity, considering how charges, other than energy, are determined and approved for payment by customers, including:
   i. Transmission and distribution service;
   ii. Associated billing or administration costs; and
   iii. Rate riders typically established to collect deferred balances.

14. The Committee shall make appropriate recommendations regarding proposed modifications to the default rate and any other changes necessary to ensure Alberta electricity customers receive appropriate standards of service and protection for all other components of their bills.

15. The Committee shall consider and recommend appropriate changes to the Regulations or legislation or both.

16. When making its recommendations, the Committee shall consider the following principles:

a) Alberta has determined that consumers have the right to choose their electricity provider (Section 110 of the *Electric Utilities Act*);
b) The essential nature of competitive contracts will not be affected by the review. This means that there will be no unwinding of existing competitive contracts;
c) Any default rate (currently the RRO) will not provide unfair advantages to any market participant (Section 5(c) of the *Electric Utilities Act*); and
d) The Alberta electric energy system will continue to be a user-pay system. It is not the role of the Government of Alberta to subsidize the cost of electric energy to Albertans.

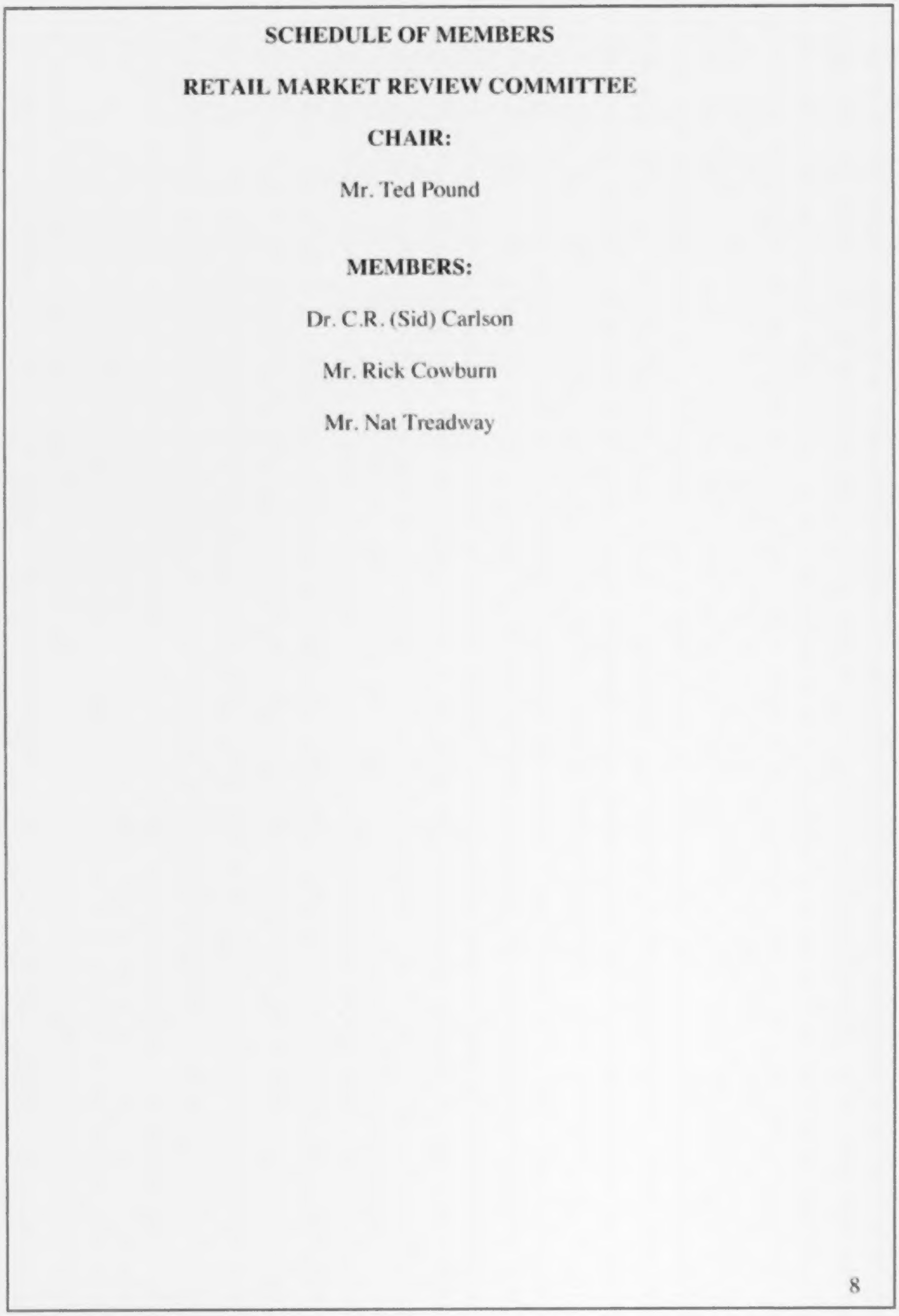
Report:

17. The Committee shall submit to the Minister of Energy a written report detailing the results of the review by June 21, 2012.

18. Any recommendations and advice that the Committee provides in the course of carrying out its duties and functions will not restrict or be binding on the Minister of Energy or the Government of Alberta.

Secretariat:

19. The Department of Energy shall provide secretariat services to, and in respect of, the Committee, including services related to the FOIP Act and records management. Upon expiration of the Committee's term on July 21, 2012, the Department of Energy shall provide for the long-term preservation of the records relating to the Committee in accordance with the records management program of the Government of Alberta.



SCHEDULE OF MEMBERS

RETAIL MARKET REVIEW COMMITTEE

CHAIR:

Mr. Ted Pound

MEMBERS:

Dr. C.R. (Sid) Carlson

Mr. Rick Cowburn

Mr. Nat Treadway

The Project Team

The Retail Market Review Committee

For biographies of the committee members, please see www.rmrc.ca.

E. A. (Ted) Pound, Chair

C. R. (Sid) Carlson
MSc, Social Science, California Institute of Technology; PhD, Economics, University of Iowa.

Rick Cowburn
BA, MA, Linguistics, Physics, Computing Science, University of Saskatchewan; MBA, University of Alberta

Nat Treadway
BSE, Civil Engineering, Princeton University; MS Agricultural Economics, Michigan State University

The Secretariat (Alberta Department of Energy)

Chris Arnot, Chair (from July 1, 2012)
Manager, Carbon Capture and Storage Development Policy Regulatory Framework Assessment

Coleen Dawson, Data Analysis
Policy and Research Analyst, Carbon Capture and Storage Development Policy Regulatory Framework Assessment

Salvatore (Sam) Fiorillo
Analyst, Carbon Capture and Storage Projects

Robyn Hanson, Communications and Media Relations
Public Affairs Officer, Communications

David James, Chair (to June 30, 2012)
Director, Infrastructure Policy

Shirley Nelson-Caspell
Administrative Support, Electricity Markets Branch

Technical Consultants

Heather Cromb, Proofreader

Marie Lesoway, Pentacle Productions, Project Writer

Kyle Loranger Design, Layout and Design

Mark Laver, NRG Research Group, Consumer Surveys

Consultation Participants

The presentation date columns indicate the date on which the agency or stakeholder presented to the Retail Market Review Committee.

Archived audio recordings of presentations made to the committee are posted on www.rmrc.ca.

Expert Agencies

Agency	Presentation Date	Presenters
Alberta Agriculture and Rural Development www.agric.gov.ab.ca	April 27, 2012	Terry Holmes, Director, Rural Utilities Division
Alberta Department of Energy, Electricity Markets Branch http://www.energy.gov.ab.ca	March 27-28, 2012 April 13, 2012 May 29, 2012	Russell Andrews, Manager, Retail Policy Arne Johnsen-Sollos, Senior Manager, Retail Policy Bryan Karbonik, Director, Wholesale Electricity Policy Ewa Kultys, Senior Analyst, Retail Policy Philip Shum, Director, Retail Policy Kathryn Wood, Executive Director
Alberta Electric System Operator www.aeso.ca	April 30, 2012 May 8, 2012	Matt Davis, Markets Analyst John Esaiw, Director, Forecastingr Todd Fior, Vice President, Finance Kelly Gunsch, Vice President, Market Services Heidi Kirmaier, Vice President, Regulatory Peter Wong, Director, Compliance
Alberta Human Services employment.alberta.ca	April 26, 2012	Kevin Inkster, Manager, Income Support Program Heather Korobanik, Senior Program Planner
Alberta Seniors www.seniors.gov.ab.ca	May 31, 2012	Dale Beelsey, Executive Director Patti Schimpf, Manager
Assured Income for the Severely Handicapped www.seniors.gov.ab.ca/aish/	May 31, 2012	Heather King, Senior Manager, Special Needs Assistance Program Neil McDonald, Manager, Seniors Benefit Program

Agency	Presentation Date	Presenters
Alberta Utilities Commission www.auc.ab.ca	April 25, 2012	Mike Hagan, Executive Director, Rates Division Bob Heggie, Chief Executive Officer David Mitchell, Regulatory Specialist, Rates Division Fino Tiberi, Executive Director, Regulatory Policy Division
Balancing Pool www.balancingpool.ca	May 9, 2012	Bruce Roberts, Acting Chief Executive Officer
Market Surveillance Administrator albertamsa.ca/	April 25, 2012 May 8, 2012	Harry Chandler, Chief Executive Officer Mike Nozdryn-Plotnicki, Senior Advisor Doug Wilson, Senior Legal Counsel and Secretary
Natural Gas Exchange www.ngx.com	April 27, 2012	Greg Abbott, Vice President, Market Operations Peter Krenkel, President and Chief Executive Officer
Service Alberta servicealberta.ca/	April 30, 2012	Scott Hood, Director, Fair Trading
Utilities Consumer Advocate ucahelps.alberta.ca/	April 26, 2012	Kerry Byers, Office Manager Nick Jansen, Policy Analyst Bert Paulssen, Chair, Board of Directors Barry Shymanski, Regulatory Manager Rob Spragins, Alberta's Utilities Consumer Advocate

Industry Stakeholders

Agency	Presentation Date	Presenters
Alberta Association of Municipal Districts and Counties www.aamdc.com/	May 29, 2012	Soren Odegard, Director, District 5 - Edmonton East
Alberta Federation of Rural Electrification Associations www.afrea.ab.ca	June 1, 2012	Dan Astner, Vice-President Colleen Musselman, General Manager, Battle River Rural Electrification Association Al Nagel, Chief Executive Officer Merv Rockel, President
Alberta Urban Municipalities Association www.auma.ca	May 30, 2012	Brian Jackowich, Senior Director, Energy and New Services Helen Rice, Vice President and Director, Cities up to 500,000 - City of Grande Prairie
AltaGas Ltd. www.altagas.ca	June 4, 2012	Melissa Harvey, Coordinator, Regulatory and Government Relations Hal Nummi, Director, Commercial and Industrial Markets Brian Wood, Divisional Vice President, Commercial and Industrial Marketing - Power
AltaLink www.altalink.ca	(written submission only)	
Atco[1] atcoelectric.com/	June 6, 2012	Siegfried Kiefer, Chief Operating Officer, Atco Energy & Utilities Bobbi Lambright, President, Atco Electric - Operations Division Anders Renborg, Vice President, Asset Optimization, Atco Power
Canadian Federation of Independent Business www.cfib.ca	June 6, 2012	Richard Truscott, Director, Provincial Affairs - Alberta and Northwest Territories
Capital Power Corporation www.capitalpower.com	May 28, 2012	Kathryn Chisholm, Senior Vice President, Legal, Regulatory and Government Affairs Daniel Jurijew, Senior Manager, Regulatory Affairs West
Central Alberta Rural Electrification Association www.carea.ca	(written submission only)	Joint submission with Lakeland, North Parkland Power and South Alta REAs

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[1] Atco Electric provided a written submission in response to the Retail Market Review Committee's questions to stakeholders. Representatives of Atco Electric, Atco Energy & Utilities and Atco Power made a presentation to the committee in June 2012.

Agency	Presentation Date	Presenters
City of Calgary www.calgary.ca	June 7, 2012	Andre Chabot, Alderman Ron Holberton, Senior Regulatory Analyst, Corporate Tax and Regulatory Affairs Richard Mount, Manager, Corporate Tax and Regulatory Affairs - Finance and Supply
City of Lethbridge www.lethbridge.ca	June 5, 2012	Nigel Chymko, Chymko Consulting Doug Hawkins, Director, Infrastructure Otto Lenz, Electric Manager Michael Turner, Chymko Consulting
City of Red Deer www.reddeer.ca	(written submission only)	
Constellation Energy Commodities Group www.constellation.com	(written submission only)	
Consumers' Coalition of Alberta www.albertaconsumers.org/	May 31, 2012	Wendy Armstrong, President Azad Merani, Technical Consultant Jim Wachowich, Legal Counsel
Direct Energy Marketing Limited (on behalf of Direct Energy Regulated Services and Direct Energy Partnership) www.directenergy.com	May 30, 2012	Tannis Kozak, Vice President and General Manager, Canadian Residential Energy James McIntosh, Senior Director, Alberta Regulated Services Gary Newcombe, Vice President, Government and Regulatory Affairs
Enmax Corporation www.enmax.com	June 6, 2012	Helen Bremner, Executive Vice President, Residential Markets Deborah Emes, Vice President, Regulatory Lonnie Enns, Vice President, Wholesale Energy Dale McMaster, Executive Vice President, Transmission and Distribution Services
Epcor Energy Alberta Inc. and Epcor Distribution & Transmission Inc. www.epcor.com	June 7, 2012	Jay Baraniecki, Senior Manager, Regulated and Commercial Initiatives Guy Bridgeman, Senior Vice President, Strategic Planning and Development Mike MacBeath, Director, Energy Services
FortisAlberta Inc. www.fortisalberta.com	June 4, 2012	Karl Bomhof, General Counsel and Corporate Secretary Miles Stroh, Director, Regulatory

Agency	Presentation Date	Presenters
Industrial Power Consumers Association of Alberta ipcaa.ca	June 4, 2012	Vittoria Bellissimo, Policy and Regulatory Consultant Marie Gallant, Chair
Independent Power Producers Society of Alberta www.ippsa.com	June 8, 2012	Evan Bahry, Executive Director
Hudson Energy Canada Corporation www.hudsonenergy.net		See entry for Just Energy Alberta.
Just Energy Alberta (also representing Hudson Energy Canada Corporation) www.justenergy.com	June 5, 2012	Nola Ruzycki, Vice President, Regulatory Affairs
Lakeland Rural Electrification Association www.lakelandrea.ca	(written submission only)	Joint submission with Central Alberta, North Parkland Power and South Alta REAs
North Parkland Power Rural Electrification Association www.northparklandpower.com	(written submission only)	Joint submission with Central Alberta, Lakeland and South Alta REAs
South Alta Rural Electrification Association www.southalta.com	(written submission only)	Joint submission with Central Alberta, Lakeland and North Parkland Power REAs
Spark Power (Alberta Renewable Energy Cooperative) www.sparkyourpower.ca	May 28, 2012	Harvey Yoder, Director, Corridor Communications
TransAlta Corporation www.transalta.com	June 8, 2012	Marcy Cochlan, Director, Market Regulation Sterling Koch, Vice President, Regulatory and Commercial Management Bob Smith, Regulatory Manager
Utilities Consumer Advocate (also presented as an expert agency) ucahelps.alberta.ca/	June 4, 2012	Nick Jansen, Regulatory Analyst, Service Alberta Rob Spragins, Alberta's Utilities Consumer Advocate
Utility Network & Partners Inc. (representing Adagio Energy, Bow Valley Power, Brighter Futures Energy, E NRG, Milner Power, Mountain View Power, Spark Power, Spot Power and Vector Energy) www.utilitynet.net	May 29, 2012	Nick Clark, Managing Partner Madeline Low, Managing Partner
West Wetaskiwin Rural Electrification Association	(written submission only)	

Expert Consultants

Parviz Adib, PhD, Prinicipal, Pioenergy Consulting (former Director, Public Utility Commission of Texas) Austin, Texas	May 25, 2012
Sheldon Fulton, Independent Advisor to Epcor, Enmax and Direct Energy (former Executive Director, Industrial Power Consumers Association of Alberta) Calgary, Alberta	May 9, 2012 July 16, 2012
Gary Holden, Chief Executive Officer, The Cash Store (former Chief Executive Officer, Enmax Corporation) Australia	June 6, 2012
Arne Johnsen-Sollos, Senior Manager, Retail Policy, Energy, Government of Alberta Edmonton, Alberta	May 10, 2012
Stephen Littlechild, PhD, Fellow in Privatisation, Regulation and Competition, Judge Business School, University of Cambridge (former Director General of Energy Supply, United Kingdom) Cambridge, England	May 17, 2012
Martin Merritt, Principal, RKN Environmental (former Chief Executive Officer, Market Surveillance Administrator) Calgary, Alberta	May 15, 2012 July 16, 2012

Albertans

Two thousand Albertans participated in the Retail Market Review Committee's consumer survey of the retail electricity market. Eight hundred voiced their opinions through the committee's online survey. Other Albertans tuned in to webcasts of the committee's consultations, which are archived at www.rmrc.ca.

Appendix

2

Alberta's Electricity Timeline

Unless otherwise stated, all regulations cited in this timeline are associated with Alberta's Electric Utilities Act.

1880s	As in other parts of Canada, Alberta's electricity system evolves as vertically integrated utilities that control both the generation and transmission of electricity in designated service areas (Ronayne 1996). Many of the province's first electric utilities are municipally owned.[1]
1889	Calgary gets electricity services—five years after becoming a town, and five years before it becomes a city (Enmax 2012).
1891	Edmonton gets its first electric lights when a hand-stoked, coal-fired, steam-operated generator launches operations on December 22 (Capital Power n.d.).
1911	The founding of the Calgary Power Company Ltd. and the opening of its Horseshoe Falls hydro plant bring large-scale, central-station-generated electricity to Alberta (Glenbow n.d.).
1915	Alberta's first regulatory agency, the Public Utilities Board, is established to regulate utility rates and services.[2] (AUC n.d.-c).
1930s	The Calgary Power Company's "Modern All-Electric Kitchen" trailer tours the province to promote the use of electricity in the home (Glenbow n.d.). Featured appliances include a range, a refrigerator and a coffee maker (AESO 2008).
1944	The **Alberta Power Commission** is established to investigate power and its distribution. The commission is "empowered to take the necessary steps towards the...electrification of the rural areas of the province" (Shulze 1989, p. 64, citing a Social Credit brochure).
1948	In Alberta's population of just more than half a million, about 138,600 households and 3,400 farms have electricity (Shulze 1989; Municipal Affairs n.d.). In a provincial election plebiscite on whether electric utilities should be publicly or privately owned, Albertans vote to support private ownership (the status quo) by a margin of 150 votes (Schulze 1989).[3]
1950s	Interties are constructed to connect Alberta's electricity system with its provincial neighbours. Before this time, Alberta was an electricity island, and all the power needed to serve its population had to be produced within the province (AESO 2007).
1974	Alberta's transmission system is operated as an integrated system (Alberta Advisory Council 2002).[4] The province's vertically integrated utilities share the role of system controller. In a vertically integrated electricity industry, individual utility companies control both the generation and transmission of electricity in their service areas, with the result that customers in different regions pay different prices for electricity. Albertans in remote parts of the province pay considerably more for electricity than people who live closer to generating plants and transmission stations.

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[1] The Edmonton Electric Lighting and Power Company became Canada's first municipally owned electric utility in 1902 (Capital Power n.d.).

[2] In 1995, the merger of the Public Utilities Board and the Energy Resources and Conservation Board creates the Alberta Energy and Utilities Board.

[3] The plebiscite asked Albertans the following (Schulze 1989, 81, citing a government brochure called "Electrifying Alberta: There Are Two Alternatives—Yours Is the Choice"): Do you favour the generation and distribution of electricity being continued by the Power Companies as at present? OR Do you favour the generation and distribution of electricity being made a publicly-owned utility administered by the Alberta Power Commission? Mark the figure "1" next to your choice. The majority of farm owners chose public ownership.

[4] Before the 1970s, transmission and distribution systems are built to serve local needs within specific service areas. There is no centralized planning, construction or operational control.

1982	The Alberta government creates the **Electric Energy Marketing Agency (EEMA)** to address the issue of widening rate differences in different parts of the province (Alberta Advisory Council 2002; AUC n.d.-c; Ronayne 1996). The wholesale cost of electricity is pooled and rates are equalized by averaging the price of generation and transmission across the province. All Albertans—regardless of location or electricity provider—pay the equalized, regulated EEMA price for generation and transmission.
early 1990s	Electric utilities and independent power producers lobby government to abolish EEMA "on the grounds that it...[is] a disincentive to the most cost-efficient utilities" (Alberta Advisory Council 2002, Appendix C, n.p.).
1993	The Alberta Minister of Energy directs the Department of Energy to work with stakeholders, including utilities companies, independent power producers, regulators and consumers, to develop a new structure for the province's electricity industry. The purpose of restructuring is to introduce competition into the electricity industry. The *Electric Utilities Act* is the result of this work (DOE 1996).
1994	The Department of Energy's **multi-stakeholder committee** examines the issues and recommends electricity restructuring based on the model of bid-offer power pools in Australia and the United Kingdom (Alberta Advisory Council 2002, Appendix C, n.p.). Stakeholders agree that new generation should be deregulated, but there is no consensus on what to do with existing regulated generation. The issue is whether consumers or shareholders should capture the stranded benefit or residual value of existing generation, and for how long. Consumers argue that, since existing generating plants were paid for through consumer rates, some of the value of these plants should continue to flow to consumers. Plant owners argue that the residual value should flow to their shareholders. Cowley Ridge, Canada's **first commercial wind farm**, is completed near Pincher Creek, Alberta (Canadian Geographic n.d.).
1995	The ***Electric Utilities Act***[5] is passed (Advisory Council 2002, Appendix C).
1996	The *Electric Utilities Act* comes into effect on January 1, laying the foundation for a fully competitive electricity market and for more streamlined regulation of other parts of system (DOE 1996). Transmission, distribution and the retail sale of electricity remain regulated, and utilities companies are required to separate these functions for accounting and regulatory purposes. New electricity generation is deregulated. For existing generation facilities, a system of legislated hedges allows shareholders to recover the cost of their investment, while ensuring that consumers do not have to pay higher prices for electricity generated from existing plants[6] (DOE 1996; Advisory Council 2002, Appendix C). A competitive **power pool** is established to operate a spot market for energy and to coordinate the province's integrated transmission system. Several areas of concern remain unresolved, including issues related to the implementation of retail competition and consumer choice (Advisory Council 2002, Appendix C).

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[5] The 1982 EEMA provisions are grandfathered in the act.

[6] The legislated hedges worked as follows (Advisory Council 2002 Appendix C; Alberta Energy 1996b; Ronayne 1996). Alberta's electricity distributors paid generators a regulated monthly fee to cover the generators' fixed costs(that is, the costs of building and operating their facility). The generators also received the market price for power they provided to the power pool. If this price was greater than the generators' average operating costs, as estimated by the regulator, they returned the surplus to the power pool administrator for distribution back to the distributors. The effect was that the price that electricity distributors (and their customers—Alberta consumers) paid for power was close to the actual cost of producing that power. At the same time, generators recovered both their fixed and variable costs and did not face the risk of stranded investment in the facilities they had built.

1997	It becomes clear that the existence of legislated hedges and unresolved concerns are skewing the market. The existence of hedges is contrary to the intent of the province's pro-competition reforms. In effect, although all electricity is exchanged through a competitive electricity market, the actual price received for most generation is regulated. The result is that market prices are not signaling the need for new generation, and the anticipated new generating facilities are not being built (DOE 1996; Advisory Council 2002, Appendix C).
1998	A balancing pool account administered by Alberta's electricity power pool is established to manage **power purchase agreements** (PPAs) that will resolve the issues of residual value and market power. PPAs are the mechanism through which the supply of electricity (that is, the generating output) from previously regulated coal- and gas-fired generating plants is introduced for sale in the competitive market (Balancing Pool 2010). The result is a virtual divestiture: incumbent generators retain ownership, but lose the ability to participate in the market for the duration of the PPA. The PPA owner has the right to determine how the output from the plant is sold. Amendments to the *Electric Utilities Act* provide a framework for further restructuring of the electricity industry by 2001, when competition is introduced in the retail market (AUC n.d.-c). The first post-restructuring generation facility is brought online—TransAlta's two-megawatt wind facility near Pincher Creek, Alberta (DOE n.d.-b; Centre for Energy and the Calgary Herald, 2008).
1999	The balancing pool commences operations (Balancing Pool 2010). Its role is to manage auction sales of the generating capacity of existing generating plants (that is, to auction power purchase agreements, or PPAs).

MEDICINE HAT'S STORY

The City of Medicine Hat has its own natural gas fields, and has been in the energy business since 1902. Medicine Hat also has its own electric utility, which has been generating power for city residents since 1910 (City of Medicine Hat, n.d., 2007).

Medicine Hat is not subject to the *Electric Utilities Act*.

2000	The first power purchase auction is held in August. Restrictions on the auction share that can be purchased by any one party prevent any single bidder from exercising market power. The auction generates about $1.1 billion from PPAs covering 4,240 megawatts of capacity (Taft and Cooper 2000). A second, smaller auction (formally called the Market Achievement Plan) in December allows bids on much smaller amounts of electricity than the first auction. Forty-five companies bid on 2,900 megawatts of electricity, generating $2.3 billion for the balancing pool (Taft and Cooper 2000). Proceeds from the auctions are passed on to customers as residual value payments[7] for 20 years or the remaining life of the facility, whichever comes first (Alberta Advisory Council 2002, Appendix C). (A large part of the proceeds of the first PPA auction were immediately distributed to Albertans who had filed a tax return the previous year.) The balancing pool becomes the default owner of the 42% of generating capacity that is not sold, and manages this asset on behalf of Albertans (Balancing Pool 2012 [presentation]).[8] The government sponsors a consumer awareness campaign to inform Albertans about their electricity choices.
2001	**The retail market opens to competition**. For the first time, consumers can buy their power from the electricity retailer that offers them the best service and prices (Alberta Resource Development 2000). Electricity transmission and distribution remain regulated, and any retailer can use the distribution system to provide electricity to consumers anywhere in the province. For Albertans who do not select a retailer, electricity distribution system owners are directed to provide a **transitional regulated rate** for a defined period (three years for small industrial and business customers; five years for residential and farm customers). The transitional rates are set through **energy price-setting plans** negotiated between the rate provider and consumer groups, and approved by the Alberta Utilities Commission (DOE 2012f). The rates include longer-term hedges that protect customers from price variability, but also restrict the development of a competitive retail market.
2002	A task force led by Alberta Government Services and Alberta Energy investigates electricity billing issue (Alberta Government Services and Alberta Energy, 2002). Its recommendations to simplify and standardize electricity bills are incorporated into the 2003 Billing Regulation.

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[7] Generating plants built before the 1996 electricity industry restructuring were constructed "with support from the power rates customers paid under the regulated system. As such, customers had a claim on some of the value of these plants" (Taft and Cooper 2000, p. 12). The proceeds from PPA auctions were returned to consumers (through rebates from the power pool) as compensation for this value.

[8] The balancing pool currently controls only one PPA, for 734 megawatts (5.4% of conventional generation).

2003 (regulatory changes)	The *Electric Utilities Act* is amended to consolidate regulations into a single statute. The Regulated Default Supply Regulation comes into effect, with a scheduled start date of July 2006 (DOE 2012f). As of 2006, the Regulated Rate Option that was scheduled to end in 2003 and 2005 (after the transitional periods established in 2001) is to be replaced by a rate based on a flow-through of the monthly average wholesale price flow-through rate. This rate structure is designed to introduce consumers to variable monthly prices—with all their inherent risks and benefits—"as a key to allow the introduction of retail products" that offer long-term price stability (DOE 2012f). However, because consumers would be exposed to wide monthly price fluctuations and would only know the price of power when they got their bills, the regulation is not enacted. The **Code of Conduct Regulation** comes into effect. The regulation clarifies expectations for the behaviour of electricity distribution companies and their affiliated retailers. The **Distribution Tariff Regulation** defines how distribution rates are set and approved, and outlines the security requirements that retailers must post with distribution system owners (DOE 2012a [Presentation1]). The **Roles, Relationships and Responsibilities Regulation** defines the obligations of distribution system owners, default suppliers and customers (DOE 2012a [Presentation1]). The **Billing Regulation** and the Payment in Lieu of Tax Regulation come into effect.
2003 (new organizations)	The *Electric Utilities Act* establishes the **Balancing Pool** as a separate statutory corporation (Balancing Pool 2010). The Office of the **Utilities Consumer Advocate** is established under the Government Organizations Act, and operates under the authority of the Ministry of Service Alberta (UCA 2012c).
2004-2005	The Wholesale Market Policy Task Force conducts stakeholder consultations to review Alberta's competitive market framework, including retail market-specific issues such as a Regulated Rate Option for small consumers (DOE 2005a). Industry stakeholders propose a range of options for a new default rate to replace the transitional rate introduced in 2001.
2005	The Alberta Department of Energy sets out a **policy framework** for the province's retail and wholesale electricity markets. The framework sets out the rationale and design for a new transitional default rate—the Regulated Rate Option, or RRO—based on one-month-forward hedges
2005	The **Regulated Rate Option Regulation** is approved, replacing the 2003 Regulated Default Supply Regulation. The regulation mandates that a **new regulated rate** will be gradually phased in between July 1, 2006, and June 30, 2010. During this period, one-month-forward hedges replace longer-term hedges for increasingly larger portions of the regulated rate. Consumers are gradually exposed to month-to-month price fluctuations, and the retail market has time to develop and mature. By July 1, 2010, the Regulated Rate Option is based exclusively on one-month forward hedges (DOE 2012f; DOE 2010b).
July 1, 2006	Transition to the new Regulated Rate Option begins. One-month-forward hedges constitute 20% of the new rate. The **Tariff Billing Code** (Rule 004) comes into effect. The code standardizes the format in which electricity distribution system owners must provide billing information to retailers responsible for billing electricity customers.

2006, 2008	Department of Energy stakeholders discuss the harmonization of electricity- and natural gas-related regulations "to make it easier for consumers and retailers to buy and sell dual fuel products" (DOE 2008, p. 1).
2007	The Department of Energy conducts an internal review of the Regulated Rate Option.
2007	The **Market Surveillance Administrator** is established (MSA 2012b).One of the MSA's roles is to protect and promote the fair, efficient and openly competitive operation of Alberta's wholesale and retail electricity markets.
2008	The **Alberta Utilities Commission** and the Energy Resources Conservation Board are created from the former Alberta Energy and Utilities Board (AUC n.d.-c). Alberta's Micro-generation Regulation comes into effect, allowing consumers to generate their own power from environmentally friendly sources.
2008	Alberta releases a provincial energy strategy document called *Launching Alberta's Energy Future*.
2009	The **Fair, Efficient and Open Competition Regulation** comes into effect. The regulation clarifies expectations for the behaviour of all participants in Alberta's electricity market. The Department of Energy sponsors a one-month-long media campaign that uses radio spots and print ads to educate consumers about the retail electricity market and the Regulated Rate Option. This is the first and only department-sponsored electricity campaign (DOE 2012b [Presentation]).
July 1, 2010	The new Regulated Rate Option (outlined in the 2003 regulation) is fully implemented. The new rate is entirely based on one-month-forward hedges.
2010	The Department of Energy conducts a second review of the Regulated Rate Option.
2010	The Department of Energy establishes the Electricity Coordinating Forum to provide an opportunity for the department and industry stakeholders to work together on policy and infrastructure issues related to Alberta's competitive retail and wholesale electricity markets.
2011-2012	Public concern grows as electricity prices and volatility reach record highs (DOE 2012f).
2012	The **Energy Marketing and Residential Heat Sub-metering Regulation** of the Fair Trading Act is amended to give Albertans with poor credit or no credit history access to fixed-rate electricity contracts. They can pay a deposit that they negotiate with energy marketers
March 22, 2012	The **Retail Market Review Committee** is appointed to examine Alberta's retail electricity market. This is the first comprehensive review since the market was opened to competition in 2001.

Appendix

3

Alberta's Electricity Industry

An Overview

"At its point of use, electricity is one of the cleanest, most efficient forms of energy."

—Government of Alberta, Launching Alberta's Energy Future: Provincial Energy Strategy, December 2008, p. 44

The physical system

Every electricity system includes the following components (Ronayne 2001):

- generation (production of electricity)
- dispatch (coordinated control of generation and transmission to meet the demand for power)
- transmission (wires, equipment and services that support high-voltage electricity transportation)
- distribution (wires, equipment and services that support low-voltage electricity transportation)
- retail (customer services related to electricity purchasing, metering and billing)

Market structure and governance

Alberta's electricity industry includes four inter-related energy markets. A liquid, competitive wholesale market is the foundation of a well-functioning retail market.

- The **wholesale market** (also called the "power pool" or the electricity "spot market") is where electric energy is bought and sold in real time. Generators offer to sell their electricity production to the power pool and are paid the pool price if their offering is dispatched. Retailers bid to buy the power they need to supply their customers. Industrial consumers bid to buy the power they need for their operations.
- The **forward market** is where electricity is bought and sold before the physical commodity is actually produced. The physical forward market involves the delivery of electricity in the real-time wholesale market, but payments from buyers to sellers are made outside this market. The forward financial market involves the trading of financial contracts that are derived from the electricity commodity. Delivery involves the flow of cash, not the flow of electricity.
- The **ancillary services market** is where the Alberta Electric System Operator purchases electricity reserves and other services to ensure the safe, efficient and reliable operation of the electricity system.
- The **retail market** is the point of intersection between retail electricity providers (and default rate providers) and their customers. It is the final delivery end point for electric energy, where billing takes place.

CHARACTERISTICS OF AN EFFECTIVE ELECTRICITY MARKET[1]

1. The delivery of electricity is reliable.
2. The market is fair, sustainable and competitive.
3. The building of new generation supply is driven by predictable, understandable market price signals that support investment, recognize the required lead time and provide a foundation for economic growth.
4. Clear, stable policy and regulations provide investor and consumer confidence. Suppliers are confident they have opportunities to compete and they can move their product to market. Purchasers are confident about their ability to access supply at competitive prices.
5. No participant wields market power (influence over market operations) that results in unwarranted transfers of wealth.
6. A flexible, adaptable structure supports the operation of a competitive market without the need for government intervention.
7. Market structures satisfy the needs of all participants, including industrial, commercial, farm and residential consumers.
8. Market structures provide certainty for new and existing participants.

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[1] Adapted from the Department of Energy's 2005 document, *Alberta's Electricity Policy Framework*.

The Physical System

Generation

Until 1996 (Alberta Advisory Council on Electricity 2002), Alberta's electricity system was dominated by three vertically integrated utilities regulated by the Alberta Energy and Utilities Board (now the Alberta Utilities Commission). As of August 2012, Alberta has 105 generating units with a total capacity of more than 14,000 megawatts (AESO 2012e).

Since 1998, privately owned companies have invested $11.5 billion to add 6,800 megawatts of new generating capacity in the province (DOE n.d.-b; AESO 2012k). In Alberta, private investors decide when to build new capacity and assume the risk with regard to the type, timing and location of their investments. Investors are free to construct any type of generation they choose, at any point in time and in any location. Decisions about the need for and investment in electricity generation are guided by competitive market forces.

SOME OF THE WAYS ELECTRICITY IS GENERATED

- Coal-fired generation: Coal burned in furnaces heats water to create steam that spins turbines to generate electricity.
- Gas-fired generation: Turbines are induced to spin by the high-speed rush of compressed air that has been heated by burning natural gas. In some plants, the exhaust from gas-fired turbines is run through equipment that extracts heat that can be used for other purposes.
- Cogeneration: Cogeneration uses waste heat produced in the process of generating electricity. Industrial facilities can use this heat for their plants and industrial processes. They can also use it to produce additional electricity to sell or to power their operations. Oil sands and other operations that produce steam and electricity in the same facility can increase the net energy yield from the primary fuel from 30-35% to 80-90%.
- Microgeneration: Since 2008, Alberta consumers have had the right to generate their own power and to receive credit for any power they send into the provincial grid. Microgeneration must use renewable, environmentally friendly energy sources (such as solar panels or wind turbines) to generate electricity for the consumer's own needs.

Alberta's coal-fired generators provide the electricity system with base load. This is because these generators tend to run constantly, since taking them off-line takes time and incurs future maintenance costs (AUC 2011a).

Natural gas-fired generators produce two types of generation (AUC 2011a):

- Cogeneration is used in upgrading facilities and in bitumen production from oil sands projects. Cogeneration facilities have a high utilization rate because they are needed to produce electricity and steam needed for industrial operations.
- Peaking generation typically runs only during high demand or peak periods. It has lower utilization rates than cogeneration.

Alberta's electricity policy framework, market design and transmission system support the development of all forms of electrical generation—"whether it's large-scale, local, fossil-fuel based or renewable" (AESO 2012k, p. 9).

Dispatch[1]

> "Demand in Alberta follows fairly consistent daily, weekly, and seasonal patterns. Peak demand is highest during the winter, followed by summer, while spring and fall are the lowest. Demand is higher during the day (on-peak hours) than during the night (off-peak hours), and weekdays are higher than weekends."
>
> —Alberta Innovates Technology Futures, *Energy Storage*, p. 22.

In systems such as Alberta's, where there is no infrastructure to support the economical storage of electricity, power must be used at the same instant it is produced. This means generating plants must produce electricity in real time, as consumers demand it. Peak demand typically occurs around dinner time on cold, dark winter evenings when people are cooking and using appliances and electronics (AESO 2012k). When there is increased demand for power, generation plants must start up additional turbines to produce the needed electricity.

The Alberta Electric System Operator monitors an interconnected electricity grid and dispatches power to meet Albertans' needs. Each section of the grid interconnected with neighboring sections to facilitate emergency support, coordinated operations and electricity purchases and sales. Minute-by-minute, hour-by-hour monitoring keeps the electric system physically stable as demand rises and falls, as generating units are ramped up or ramped down and as emergency situations are managed (DOE 1996b; Utilities Consumer Advocate n.d.-c).

The Grid

Alberta's "interconnected electric system"—"the grid"—is an interconnected network of generating plants, substations and power lines that links with grids in other jurisdictions. Electricity grids provide utilities with alternative power paths in emergencies, and they make it possible for network participants to buy and sell power from each other and from other power suppliers (Centre for Energy 2012b).

Interties

Interties are power lines that connect Alberta's electricity system (grid) to other jurisdictions. Alberta's grid is currently connected to British Columbia's and Saskatchewan's.[2] A third intertie—connecting with Montana—is under construction and is expected to be operational in 2012 (AESO 2010b).[3]

Interties act like a gate that can be opened or closed to allow the movement of electricity into or out of the province (AESO 2009a). They provide access to emergency power when Alberta's generators are unable to produce enough to meet demand, or when severe storms cause transmission equipment failures. They also facilitate the import and export of power. Interties make it possible for Alberta to export surplus power. When the wind is blowing at a level that produces more power than Albertans can use, interties provide a market where the surplus can be sold. When electricity is less expensive in other markets than in Alberta, cheaper supply can be imported over the interties (AESO 2010d and AESO 2009a).

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[1] A history of the development of Alberta's electricity system and interties can be found in Issue 1 of the Alberta Electric System Operator's *Powering Alberta* magazine. See poweringalberta.com/wp-content/uploads/2010/09/powering-albertans-1.pdf.

[2] The Alberta-Saskathewan intertie uses high-voltage direct current technology (HVDC).

[3] The Alberta-Montana intertie is a "merchant intertie." This is a transmission line built and operated by a private investor that is not a regulated utility for the purpose of selling transmission capacity, usually to generators or load customers who want to transmit power over the intertie.

Interties are critical for the reliable operation of the transmission system and for the integration of wind power into the grid.

Alberta's interties were built to import or export about 1,150 megawatts of electricity—enough to supply every city in Alberta except Calgary and Edmonton (AESO 2007). Congestion on the system means that both of Alberta's interties operate at less than full capacity.

Transmission

When electricity is transported over long distances, resistance in the wires converts some of the energy to heat. To minimize this power loss ("line loss"), step-up transformers change the low-voltage electricity produced by generators to high-voltage, which moves more efficiently along transmission lines. Step-down transformers at more than 500 substations across the province reduce the voltage to a level that can be used to power homes and businesses.

Power generators depend on reliable transmission lines to carry electricity from where it is produced to where it is needed.

Electricity transmission in Alberta is managed and regulated as a single, integrated province-wide system. The Alberta Electric System Operator oversees the transmission system to ensure that it operates safely, efficiently and reliably. The AESO oversees the design and use of the system, and ensures non-discriminatory access at fair prices.

Economies of scale make the transmission system a natural monopoly, which remains regulated in Alberta's restructured electricity system. Seven utility companies are responsible for transmission services in the province (AUC 2012a). These companies[4] "own, operate, build and maintain the system of high-voltage power lines and other electrical equipment that moves power from generators to towns, cities and large industrial customers" (AESO 2012k). Each company is responsible for reliable, economical operations in its area.[5]

Alberta relies on a "robust, unconstrained, congestion-free" transmission system to balance electricity supply and demand and ensure the reliable distribution of power throughout the province (AESO 2010b). Generation plants are out of service 10-15% of the time, but since transmission lines are almost always available (99% of the time), power can be redirected to compensate (AESO 2010e) when facilities shut down or cannot supply the electricity that consumers need.

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[4] The Transmission Regulation of Alberta's *Electric Utilities Act* identifies utilities that provide transmission services as "transmission facility owners" or TFOs. Although TFOs own the lines and facilities, the transmission system is centrally administered by the AESO (the Alberta Electric System Operator).

[5] Unlike distribution system owners, transmission facility owners do not have exclusive service areas. Nevertheless, transmission facility ownership is still broadly reflective of distribution service areas. Alberta's major municipalities—Calgary, Edmonton, Lethbridge and Red Deer—own most of the transmission facilities within their city limits. Non-municipal transmission facilities owned by Atco Electric or AltaLink generally reflect their associated distribution service area boundaries.

Distribution Systems

Distribution systems move electric energy from the high-voltage transmission system to individual customers' homes and workplaces. Distribution power lines and facilities operate at 25 kilovolts or less. Most Albertans receive electricity from such distribution lines, which carry power that has been stepped down to a lower, usable voltage.[6]

Alberta's distribution system ownership reflects the province's electricity history. Calgary, Edmonton, Red Deer and Lethbridge own their own systems, as do the municipalities Cardston, Fort Macleod, Crowsnest Pass and Ponoka. Forty-one rural electrification associations still provide distribution service in rural Alberta. The rest of the province has been assigned to one of two major distribution utilities, FortisAlberta Inc. (generally in southern Alberta), and Atco Electric (generally in northern and southeastern Alberta).

Electricity distribution costs are closely linked to the number of customers per kilometre of line. Municipal costs per customer are generally less than the costs per customer in sparsely populated rural areas.

The distribution system, like the transmission system, is a natural monopoly. Most of Alberta's distribution lines and facilities are owned and operated by four utility companies[7].

Alberta's four major distribution facility owners are regulated by the Alberta Utilities Commission, which approves the distribution tariff they are allowed to charge customers for the use of their services. Municipally owned distribution systems outside of Edmonton and Calgary are regulated by local city councils. Elected boards of directors regulate distribution systems operated by REAs (DOE 2012f).

Distribution system owners (also called "wire owners") are responsible for building, maintaining and financing the portion of the electricity system that delivers energy to customers' homes and business. In performing this role, they enter into agreements with retailers—the companies from which consumers buy their electricity.

Distribution system owners are responsible for:

- delivering electricity
- maintaining the distribution network, including upgrading and replacing power lines and facilities
- responding to power emergencies such as outages or fallen lines
- installing, maintaining and reading electricity meters
- providing consumption data and tariff billing information to retailers
- providing a default rate (the Regulated Rate Option, or RRO) to eligible customers in their service area (AUC 2012a; Epcor n.d.-c; DOE 2012e)

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[6] Very large industrial customers may be connected directly to the transmission system and purchase power directly from generators (AESO 2009g]).

[7] Enmax and Epcor are municipally owned. Atco Electric and FortisAlberta are investor owned.

AESO Markets

The Alberta Electric System Operator is responsible for managing and operating the wholesale electricity market and for managing the ancillary services required to keep the province's electricity system stable. The AESO's System Coordination Centre is staffed 24 hours a day, seven days a week (AESO 2011a).

The AESO manages the bid-offer process through which participants submit their prices for supplying power to and receiving from the pool. It determines the merit order (the ranking of supply offers according to price) and schedules the dispatch of energy, determining the overall schedule for which generating units should run. AESO system controllers use a highly specialized computer-based energy trading system to match real-time electricity supply offers with demand bids, and post this information on the AESO website.

The AESO's energy trading system also receives electricity metering data and performs financial settlement and billing functions for the wholesale market. This ensures that distributors and retailers pay for the power they purchase for their customers, and that generators receive payment for the power they supply.

The AESO recovers its costs for managing the power pool through a tariff that is charged to power pool participants.

The Wholesale Market

Alberta's wholesale energy market (the power pool) is an open-access, energy-only[8] competitive market for electric energy supply. The *Electric Utilities Act* stipulates that all electricity traded in the province will be bought and sold through the pool. All generators are obligated to offer their power into the pool and are paid the hourly pool price for the energy they produce. The price is determined through supply and demand and set by the power pool itself. This means that market forces, not regulators, drive the industry.

In 2011, about 160 generators, suppliers, wire owners, buyers, sellers and traders participated in Alberta's wholesale market, generating trades of approximately $8 billion (AESO 2012g; 2012n).

THE IMPORTANCE OF PRICE SIGNALS

In a competitive marketplace, prices are like traffic lights. Long periods of high prices indicate a shortage of supply, and companies that can provide supply have the opportunity to turn a profit. In the electricity market, high wholesale prices tell investors that power supply is tight, and that new generation is needed to meet growing demand. In this sense, high prices are like a green light for investors to enter the market and get a piece of the action. When electricity prices are low, there is less opportunity for sellers to make a profit. Low prices are a red light for potential investors.

Price signals "support investment in the electricity sector and provide a foundation for economic growth" (AESO 2012a, p. 5). Investors rely on the accuracy of market price signals to make appropriate business decisions. Consumers rely on market price signals to adjust their consumption behaviour, buying less when prices are high and more when prices are low.

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[8] In an energy-only market, generators are only paid for the actual electricity they produce and offer to the market. In a capacity market, by contrast, generators are paid for the availability of their capacity to supply energy: they receive a fee whether energy is produced or not.

How Pool Price Is Determined

Offers to sell, bids to buy

One day before they wish to sell it, power generators and importers offer their electricity supply to the power pool (wholesale market) for sale at a given hour of their choosing at their own chosen price.

For each hour of the day, offers are sorted from lowest to highest in a list called the **merit order**. As electricity demand shifts throughout the day, AESO system controllers use the merit order to dispatch power to the transmission grid and balance supply and demand. The lowest-priced power is dispatched first, followed by the next lowest and the next lowest, until all the electricity supply required for that particular hour has been used.

Every minute, offers of electricity supply that are submitted by generators and dispatched by system controllers set a system marginal price (SMP). At the end of each hour, the 60 one-minute SMPs are averaged to calculate the pool price for that hour. The average pool price for 2011 was $76.22 per megawatt hour (AESO 2012).

The pool price serves as the reference price for setting financial electricity contracts.

OFFERS TO SUPPLY

Since 2007, Alberta's power pool has had the "must offer, must comply" rule. Under this rule, each generating asset in the system has an identified maximum supply capacity that it can provide under optimal conditions. Unless they can identify an operational constraint that justifies offering less, all generators must offer their maximum capacity to the power pool. Each day, generators submit up to seven hourly price quantity blocks for each hour of the next seven days. The total quantity offered each day must equal their approved maximum capacity (Alberta Innovates 2011).

The maximum price at which a generator can offer power for sale is $999.99 per megawatt hour. The lowest is $0.

Ancillary Services

Maintaining the reliability of the electricity system requires that supply and demand are maintained in balance. To maintain this balance, the system must be able to respond to normal fluctuations. It must also be able to respond to unexpected events such as generators failure or sudden, unexpected ramping up or down of wind generation (Alberta Innovates Technology Futures 2011).

Ancillary services are electricity reserves and other services that ensure the safe, efficient and reliable operation of the electricity system (AUC 2011a). Ancillary services can relate to the normal operations of the system or to operations during or after a disturbance to normal operations, like when a storm takes down power lines or a generator fails. They can be active in real time, or available on standby.

The Alberta Electric System Operator procures and manages ancillary services, and recovers these costs through system access fees and tariffs paid by the generators and distribution system owners that are connected to the provincial grid. Except where there is a location-specific need that only certain eligible generators can meet, the AESO typically procures ancillary services through a competitive process—typically through the Alberta Watt Exchange (Watt-Ex) trading platform (AUC 2011a; Alberta Innovates Technology Futures 2011). Black start services are procured through bilateral contracts (Alberta Innovates Technology Futures 2011).

The most common type of ancillary services relate to reserves—supplies of energy that can be called on when needed to balance supply and demand.

- **Operating reserves** can be called into service, on short notice, to balance supply and demand from moment to moment and protect the system in the case of unexpected disturbances. Operating reserves take the form of generating capacity that the AESO can dispatch or load that can be reduced on demand.

Operating reserves take the form of regulating reserves (used to balance small, real-time changes in supply and demand) or contingency reserves. The contingency reserves include spinning reserves (standby generation that can be called into service quickly when there is a system failure) and supplement reserves that backstop other severe system failures (Alberta Innovates Technology Futures 2011; *Electric Utilities Act*).

- **Transmission-must-run service** is generation that must remain online and operating at specific levels in parts of the system where transmission is constrained and local infrastructure is insufficient to ensure reliable power delivery. It corrects for local imbalances between demand and supply.
- **Black start service** is provided by generators that can restart on their own (without an external power source) and re-energize the system in case of a black-out; reboot with no outside source of energy.
- **Load shed service** is provided by large industrial customers that can instantly and automatically shut down and reduce demand on the system when there is an unexpected disturbance.
- **Dispatch down service** provides arrangements to pay generators to reduce their output when transmission-must-run service must displace their offered supply from the merit order. It also accommodates transmission-must-run service that is out of the merit order.

Oversight

Alberta Department of Energy

The Department of Energy ensures that the development of the province's energy resources is responsible, environmentally sustainable and in the public interest. "To assure Albertans of a long-term, reliable supply of competitively priced electricity," the department develops acts and regulations to guide the "planning and operation of the transmission system, the connection of customers and the facilitation of the competitive electricity market" (AESO 2012h, p. 1).

The department's mission is to assure sustained prosperity through the responsible stewardship, development and wise use of energy (DOE 2012a). To this end, it leads and supports the development of energy-related infrastructure, innovation, markets and regulatory systems.

Alberta Utilities Commission

The Alberta Utilities Commission defines rules and business practices and sets service quality standards for Alberta's wholesale electricity market (AUC 2012a).

- AUC Rules 002 and 003 define service standards for distribution system owners, regulated rate providers and default supply providers.
- AUC Rule 004, the Alberta Tariff Billing Code, outlines rules and business processes related to site-specific billing consumption and billing information.
- AUC Rule 010 defines terms and conditions of service.
- AUC Rule 010 standardizes the presentation of historic usage information.
- AUC Rule 021 sets out system settlement code rules.

Alberta Securities Commission

The Alberta Securities Commission is the regulatory agency that administers the province's securities laws. The commission registers agencies that sell securities and ensures their conduct complies with applicable laws and professional standards. It protects investors by ensuring that the information on which they base their investment decisions is timely and accurate.

The Alberta Securities Commission regulates the fair, efficient operation of Alberta's capital market. Its responsibilities include overseeing of the Natural Gas Exchange (NGX) where wholesale electricity is traded.

Market Surveillance Administrator

The Market Surveillance Administrator is a monitor, reporter, investigator and advisor for Alberta's electricity industry (AESO 2012h, p. 2).

The MSA conducts surveillance and investigation, and enforces practices that ensure fairness, efficiency and open competition in Alberta's retail and wholesale electricity markets. It enforces the province's electricity Code of Conduct Regulation, investigates and prosecutes anticompetitive behaviour, collects and analyzes market-related data and monitors the procurement and pricing of electricity sold at the default rate (the Regulated Rate Option, RRO) (MSA 2012b).

Competition Bureau

The Competition Bureau is an independent law enforcement agency established "to ensure that Canadian businesses and consumers prosper in a competitive and innovative marketplace" (Competition Bureau Canada n.d.). The bureau's roles include ensuring truth in advertising, investigating anticompetitive activities and preventing abuses of market power

The Competition Bureau administers Canada's Competition Act, which governs most business conduct in Canada. The act includes both criminal and civil provisions aimed at preventing anticompetitive practices in the marketplace.

Financial Markets

Forward Physical Market

The physical forward market is where electricity is bought and sold before the physical commodity is actually produced. It involves delivery of electricity in the real-time wholesale market, but payments from buyers to sellers are made outside of this market.

Bilateral Contracts

In the forward physical market, buyers and sellers deal directly with one another through bilateral contracts that specify the sale and purchase of electricity at some date in the future. The actual dispatch and delivery of that electricity takes place in real time, through the wholesale market (the power pool).

When the electricity sold through a forward contract is delivered, the seller either has to generate the agreed-upon volume of power or buy that volume from the power pool. The buyer takes delivery either by purchasing the agreed-upon volume of power or by selling that volume to the power pool. The exchange between sellers and buyers is registered with the Alberta Electric System Operator as a net settlement instruction. This allows the AESO to "net forward physical transaction volume out of the actual metered volume when calculating power pool settlements" (MSA 2010b, p. 30).

Here's an example:[9]

A generator owns a plant that can produce 100 megawatts (MW) of electricity. In April, the generator sells 80 megawatts of this capacity for delivery during a block of agreed-upon hours in June. The sale price is $60 per megawatt hour (MWH). The transaction is registered with the AESO as a net settlement instruction.

Say that in June—in the actual hours covered by the agreement—the metered electricity volume that the generator (the seller) has sold to the power pool is 100 megawatts. The metered electricity volume that the buyer has purchased from the power pool is 90 megawatts.

In the absence of a net settlement instruction, the AESO would pay the generator for the 100 megawatts it supplied to the pool and charge the buyer for the 90 megawatts it purchased. The agreement between the generator and the buyer changes the calculation as follows.

When the AESO calculates the power pool settlement for the hours covered by the agreement, the generator is paid the pool price for 20 MWH (the 100 megawatts supplied to the power pool less the 80 megawatts that was presold to the buyer). The buyer pays pool price for 10 megawatts (the 90 megawatts it purchased on the actual day less the 80 megawatts that was purchased in advance).

Outside the power pool, the buyer pays the seller $4,800, as originally agreed—that is, 80 megawatts at $60 per MWh. Payments and charges made within the power pool, at the power pool price, settle the imbalance.

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[9] Adapted from the Market Surveillance Administrator, *An Introduction to Alberta's Financial Electricity Market*, p. 30.

Forward Financial Market

> "Alberta's financial market offers a venue for electricity producers and consumers in the province to hedge price risks. Proprietary traders (participants whose activities are not backed by production or consumption of electricity) bring important liquidity to the market as well as assisting in price discovery.... The development of a strong Alberta electricity financial market is integral to the overall Alberta electricity market."
>
> —Market Surveillance Administrator, *An Introduction to Alberta's Financial Electricity Market*, p. 1

Like the forward physical market, the forward financial market is where electricity is bought and sold before the physical commodity is actually produced. In the forward financial market, trades involve the flow of financial contracts and cash, not the flow of electricity.

The forward financial market provides a venue through which buyers and sellers of electricity can avoid exposure to real-time wholesale market prices. To do this, they use financial contracts to buy and sell ahead of time, thereby hedging price risks.

There are three main types of financial contracts:

- direct, bilateral agreements between two parties
- brokered over-the-counter agreements
- trades made through a regulated commodity exchange such as the NGX (Natural Gas Exchange).

HOW HEDGES WORK

The Alberta Electric System Operator works to ensure there is always enough generation to match customer demand. Retailers and other energy buyers do not need to do anything for this to happen: the system takes care of it.

But energy buyers might not like the price they have to pay for power in some hours. When supply is tight, the price can spike from $0 to $1,000 in minutes, and the bill must still be paid.

When a price spike has occurred, it is too late to do anything about it. Energy buyers—like car drivers—can't buy insurance after the accident has happened.

In Alberta's electric industry, the forward trading market allows both buyers and sellers to buy price insurance before the fact. It allows them to lock in future prices as they see fit.

The NGX: Trading through a Commodity Exchange

Commodity exchanges are the most mature and efficient forward market. They allow the efficient trading of large volumes of energy and eliminate the counterparty risks (the risk that one party may default) inherent in bilateral deals. The also allows buyers and sellers to trade anonymously.

The primary commodity exchange covering Alberta's electricity market is the Calgary-based Natural Gas Exchange Inc. (NGX), which is regulated by the Alberta Securities Commission. The NGX offers a broad range of standardized electricity swaps (energy trades) covering various hours of the day and time periods from days and months to five years forward.

Over-the-Counter Trading

Brokers can act as middlemen to set up over-the-counter agreements. The end result is a bilateral agreement of one form or another. The terms of the agreement are often standardized to facilitate buyers' evaluations of competitive offers.

Bilateral Contracts

The fundamental forward contract is a bilateral agreement: a seller agrees to provide a buyer with a defined volume of power over a specific time period for an agreed price.

Commercial bilateral agreements are thought to be quite common in Alberta. Their exact magnitude is not known because they are not reported to industry agencies.

SUCCESSFUL FORWARD MARKETS ARE LIQUID MARKETS.

In a liquid market, there are many buyers and sellers with significant economic incentives to participate in the market. Market liquidity is particularly important in the electricity industry, where price volatility is extreme and the impact of holding a large open position could be disastrous.

If a market is not liquid, the spread between what a buyer is willing to pay and what a seller is willing to offer will increase. For example, if electricity generators enjoyed a "seller's market," they could command high prices in times of shortage—without concern that a competitor might undercut their offer.

In the third quarter of 2010, the Market Surveillance Administrator noted a drop in Alberta's forward market liquidity. In electricity markets in Germany and the Nordic countries, traded volumes range between 760% and 960% of physically delivered volumes. In 2009, traded volumes in Alberta dropped to 81% of delivered volumes, raising serious concerns. Since 2009 the ratio of traded to delivered energy has generally been less than 100%. The Market Surveillance Administrator is conducting a review to examine the causes behind the reduction in liquidity (MSA 2012b).

Oversight

Alberta Securities Commission

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Appendix

4

Resources for Electricity Consumers

Government Programs

Alberta Seniors Benefit[1]

Alberta Ministry of Health

www.seniors.alberta.ca

If they meet program income thresholds, seniors who receive the full federal Old Age Security pension are eligible for additional support through the Alberta Seniors Benefit program (Alberta Health, 2012). The program is a gateway to financial assistance programs that help seniors with dental and eye care, education property tax and special needs. The special needs assistance program includes assistance with utility payments. (See p. 68 for program details.)

As of April 2012, 151,000 of Alberta's 430,000 seniors receive assistance from the Alberta Seniors Benefit program.

Alberta Works: Income Support Program

Alberta Ministry of Human Services

employment.alberta.ca/FCH/689.html

The Income Support program of Alberta Works helps people with low incomes cover basic needs such as food, clothing and shelter. A number of program benefits help people with utilities-related costs.

Albertans who are eligible for Income Support program assistance receive two types of core benefits:

- "Core essential" benefits help with the cost of food, clothing, household supplies, personal needs, laundry, transportation and telephone.
- "Core shelter" benefits help with the cost of rent or mortgage payments, homeowner's maintenance, condominium fees, municipal taxes, damage deposits, utilities costs[2] and other expenses.

Income Support program clients may also qualify for the following assistance:

- "Supplementary benefits" help with housing needs, including extra utilities costs such as connection charges or deposit fees.
- Emergency allowances help with one-time needs such as payment of utility arrears if utilities are about to be disconnected.
  - Emergency allowances are only issued to people who have no other resources and who face serious health or safety risks as a result of unforeseeable circumstances beyond their control.
  - In 2011-2012, one-time emergency benefits were issued at a rate of about 1,400 cases per month (Alberta Works, 2012).

In 2011-2012, the Income Support program caseload averaged of 35,960 cases per month: This includes clients in the programs "Expected to Work" and "Barriers to Full Employment" classifications (Office of Statistics and Information, 2012). The program served an additional caseload of 17,000 to 18,000 Albertans classified as "Full-time Learners" (Alberta Works, 2012).

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[1] The Alberta Seniors Benefit and Special Needs Assistance for Seniors programs were transferred from the Alberta Seniors ministry to the Alberta Health ministry in the spring of 2012.

[2] Income Support program clients who live in subsidized public housing may qualify for additional money for electricity costs.

Table 15. Electricity-related costs covered by the supplementary benefit and emergency allowance components of the Alberta Works Income Support program for Albertans who need help meeting their basic needs, 2011–2012

	Alberta Works: Income Support			
Electricity-Related Cost	Conditions	Cost	Cases	Cost per Case
Deposit	Covers the actual cost of a deposit. Clients are not expected to repay the first deposit paid on their behalf. If they require assistance with a subsequent electricity deposit, the funds they receive must be repaid.	$490,530	2,009	$244
Connection	Covers the actual cost of connection. Clients are not expected to repay this cost.	$47,789	364	$131
Reconnection	Covers the actual cost of reconnection. Clients are expected to repay this cost.	$92,885	833	$112
Arrears	Covers the actual cost of arrears in order to allow a client to access service or prevent disconnection. Clients are not expected to repay the first arrears payment made on their behalf. Subsequent payments of electricity arrears must be repaid.	$4,244,771	6,007	$707

Source: Alberta Works, "Utility Assistance Under the Income Support Program." Presentation to the Retail Market Review Committee, April 26, 2012.

Assured Income for the Severely Handicapped (AISH)[3]

Alberta Ministry of Human Services

www.seniors.alberta.ca/aish/

Alberta's AISH program (Assured Income for the Severely Handicapped, 2012; n.d.) provides financial assistance and health benefits to adults who have permanent disabilities that impair their ability to earn a living. In 2012, nearly 45,000 Albertans between the ages of 18 and 64[4] received assistance under the AISH program.

Eligible AISH recipients can receive two types of personal benefits related to utility costs:

- emergency assistance with utility arrears, including electricity
    - This benefit covers the actual cost of arrears that must be paid in order to access a utility service or prevent disconnection. AISH recipients may receive this assistance for any utility once in a three-year period. Additional benefits for the same utility may be granted within this period, but are subject to repayment.
- assistance with the cost of establishing a new residence, to a maximum of $1,000
    - This benefit is available to AISH recipients who are leaving an institution or escaping abuse. It covers the actual cost of essential items, including utility connection fees, within the allowed maximum.

In 2011-2012, the AISH program recorded 954 cases of providing assistance with utility arrears in 954 cases[1], at an average cost of $580 per case.

[1] The number of cases does not necessarily represent the number of individuals who received assistance. For example, one individual may have received emergency assistance for two different utilities at two different times.

Special Needs Assistance for Seniors

Alberta Ministry of Health

www.seniors.alberta.ca/financial_assistance/forms/SNA_InformationBooklet.pdf

The Special Needs Assistance program provides eligible seniors with up to $5,000 per year to cover "extraordinary" one-time personal expenses such as appliance purchases, medical costs and minor home repairs. Once in a lifetime, it can also cover utility arrears when a senior has been served with a disconnection notice. In this situation, payment is made directly to the utility company.

Seniors who receive assistance under this program must be eligible for and apply for the Alberta Seniors Benefit. (For details about this benefit, see p. 243.)

NOTE: At the time of writing, neither the Special Needs Assistance for Seniors nor the Alberta Seniors Benefit website specifically mentions one-time assistance with utility arrears as an item for which seniors can get financial support. Albertans who need this support are encouraged to contact the Special Needs Assistance for Seniors program office to discuss their situation.

Edmonton area: (780) 644-9992

Toll-free: 1-(877)-644-9992

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[3] The AISH program was transferred from the Alberta Seniors ministry to the Alberta Ministry of Human Services in the spring of 2012.

[4] Albertans who are 65 and over receive assistance from the federal Old Age Security pension program.

Consumer Support Agencies[5]

Agency and Program	Phone Number	Electricity-Related Program Details
211 Calgary www.211calgary.ca 211 Edmonton http://211edmonton.com	211 211	Support information line that connects people with community and government services that can help them meet their basic needs, find employment, and access health care, parenting support legal assistance and other resources.
Alberta Agriculture and Rural Development Rural Electric Program http://www1.agric.gov.ab.ca/general/progserv.nsf/all/pgmsrv14	(780) 427-0944 or 310-0000, then (780) 422-9167	Grants to help farmers install basic electricity services at a reasonable cost. A maximum of $15,000 is available on a cost-sharing basis once a specific installation cost threshold has been exceeded.
Alberta Health Special Needs Assistance for Seniors www.seniors.alberta.ca/financial_assistance/special_needs/	1-(877)-644-9992 toll-free (780) 644-9992 (Edmonton)	One-time assistance with utility arrears when a senior has been served with a disconnection notice. Seniors who receive assistance under this program must be eligible for the Alberta Seniors Benefit. (For details, see p. 243 and p. 245.)
Alberta Human Services Emergency Needs Allowance employment.alberta.ca/FCH/689.html	1-(866)-644-5135 toll-free (780) 644-5135 (Edmonton)	Emergency assistance with electricity deposits, connection and reconnection fees, and arrears. Benefits are typically granted on a one-time basis. Subsequent funds may be approved, but must be repaid.
Care Connect, Calgary	(403) 264-2636	Limited funding for emergency utility payments.
CTV Good Neighbour Fund, Edmonton and Northern Alberta www.goodneighbourfund.ca/	(780) 486-9215	Emergency funding awarded on a case-by-case basis to people whose needs are not covered by other assistance programs.

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[5] Information in this section was prepared by the Utilities Consumer Advocate and included in the UCA's June 8, 2012, submission to the Retail Market Review Committee.

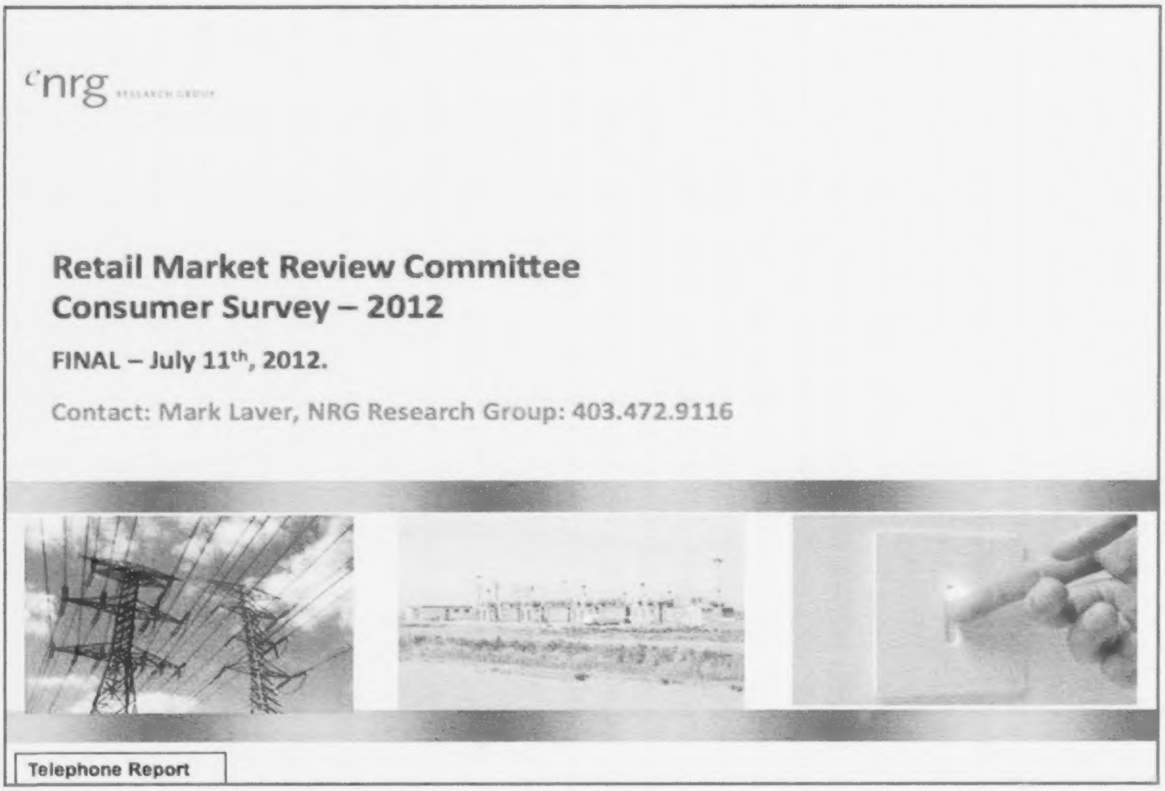
Some of the listed agencies provide a broad range of social programs and offer assistance with utilities other than electricity. Only electricity-related programs are included here.

Agency and Program	Phone Number	Electricity-Related Program Details
Inn from the Cold, Calgary Floating Outreach Program www.innfromthecold.org/	(403) 263-8384	Funding for emergency utility payments for Calgary-area families with dependent children who have a disconnection notice and are willing to participate in a one-year case management program.
Red Cross, Calgary and surrounding area Community Housing Support Program http://www.redcross.ca/article.asp?id=33827	(403) 541-6119	Up to $400 one-time assistance for electricity payments when disconnection is a concern. The program is available from mid-October to mid-April. Funding is determined on a case-by-case basis.
Red Cross, Edmonton and Northern Alberta www.redcross.ca/article.asp?id =2936&tid=081	(780) 342-8588	Assistance with disaster services only.
Red Cross, Slave Lake	(780) 805-8470	Utility assistance specifically for displaced individuals. Disaster relief.
Society of St. Vincent de Paul, Calgary www.ssvp.ca/English	(403) 538-0137	Limited funding for emergency utility payments. Awarded on a case-by-case basis.
Society of St. Vincent de Paul, Edmonton www.ssvpedmonton.ca/	(780) 471-5577	Limited funding for emergency utility payments. Awarded on a case-by-case basis.
Veterans Affairs Assistance Fund www.veterans.gc.ca/eng/services/assistfund	1-(866)-522-2122 toll-free	Emergency financial assistance (up to $1,000) for unexpected circumstances that threaten the health or safety of an individual. Available to recipients of the War Veterans Allowance.

Appendix

5

Retail Market Review Committee Consumer Survey 2012



Retail Market Review Committee Consumer Survey – 2012

FINAL – July 11th, 2012.

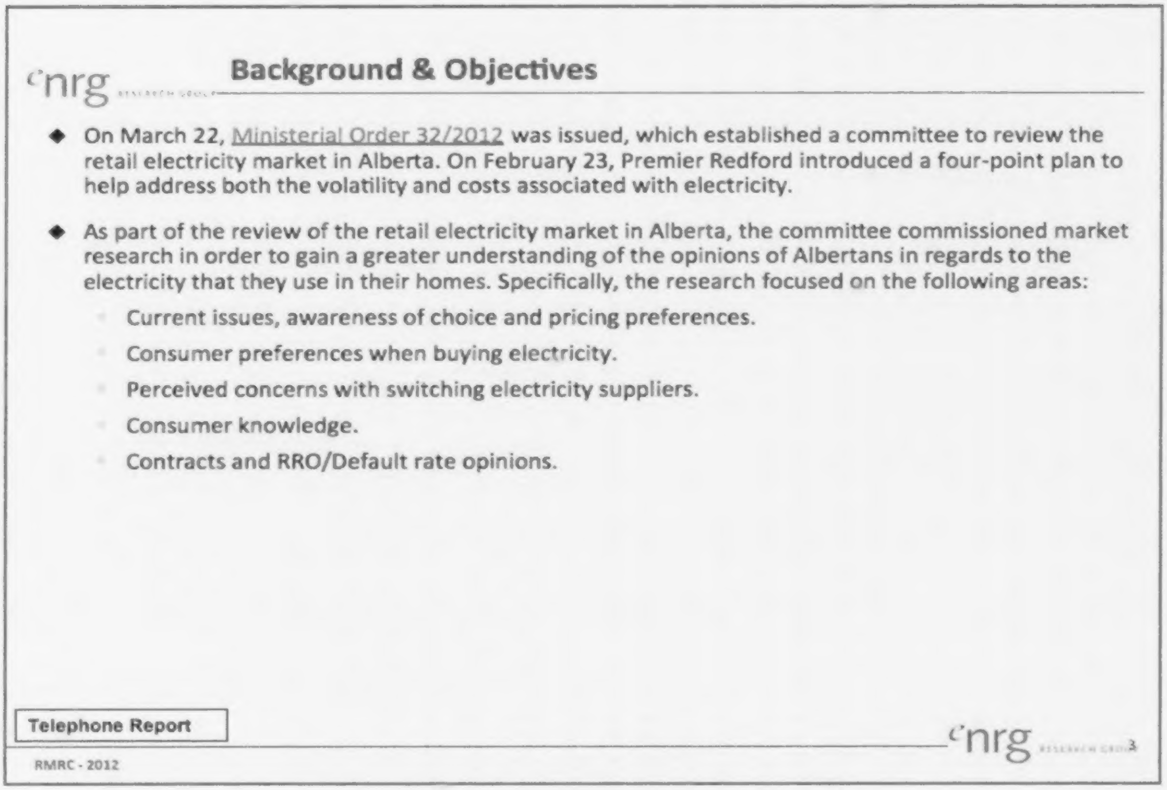
Contact: Mark Laver, NRG Research Group: 403.472.9116

Telephone Report

Outline

- Background
- Methodology
- Key Findings & Implications
- Detailed Findings
    - Issues and Choice
    - Pricing and Volatility
    - Consumer Preferences When Buying Electricity
    - Concerns With Buying Electricity
    - Knowledge and Awareness
    - Contracts
    - Demographics

Telephone Report

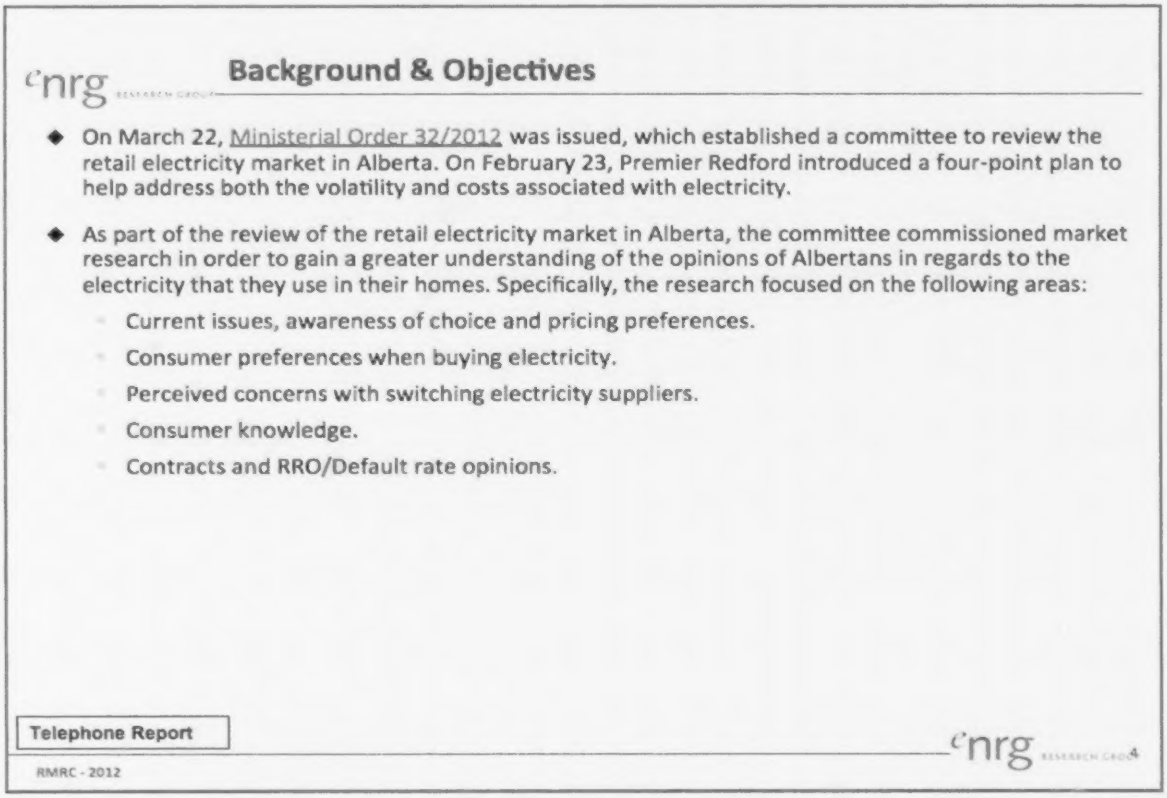


Background & Objectives

- On March 22, Ministerial Order 32/2012 was issued, which established a committee to review the retail electricity market in Alberta. On February 23, Premier Redford introduced a four-point plan to help address both the volatility and costs associated with electricity.
- As part of the review of the retail electricity market in Alberta, the committee commissioned market research in order to gain a greater understanding of the opinions of Albertans in regards to the electricity that they use in their homes. Specifically, the research focused on the following areas:
  - Current issues, awareness of choice and pricing preferences.
  - Consumer preferences when buying electricity.
  - Perceived concerns with switching electricity suppliers.
  - Consumer knowledge.
  - Contracts and RRO/Default rate opinions.

Telephone Report

RMRC - 2012



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  - Consumer knowledge.
  - Contracts and RRO/Default rate opinions.

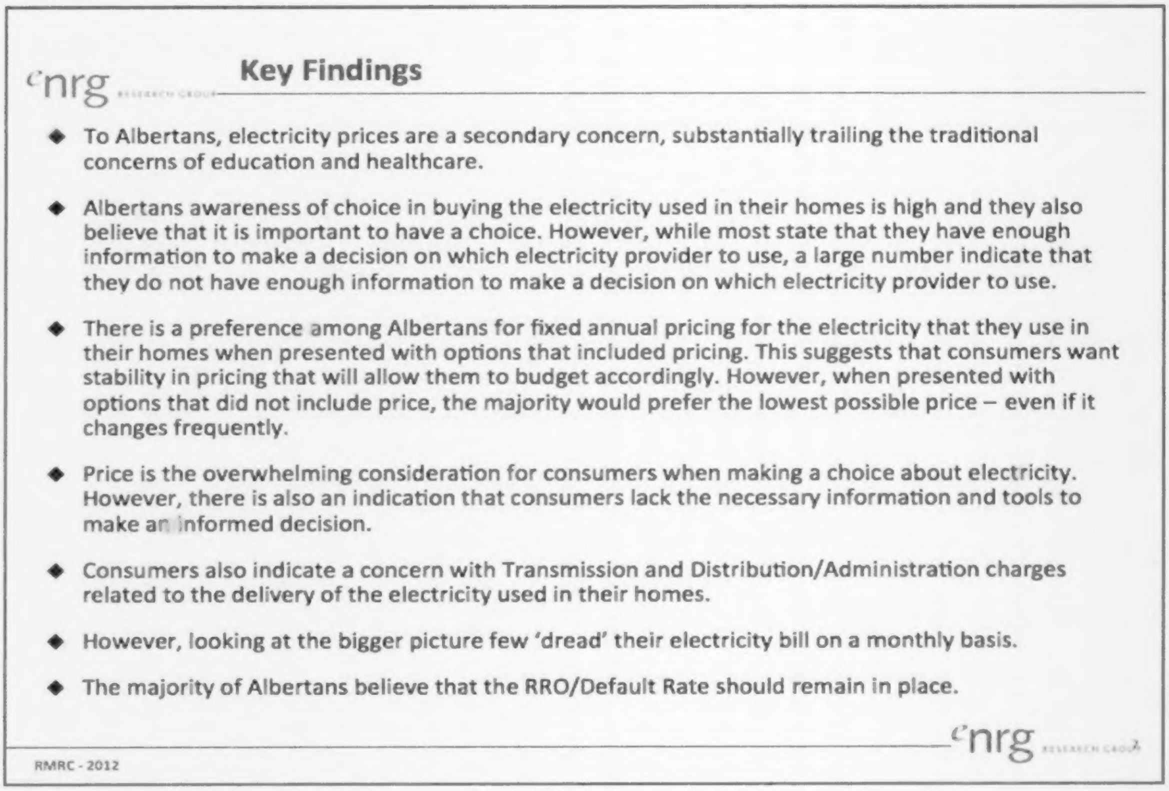
Telephone Report

RMRC - 2012

Methodology

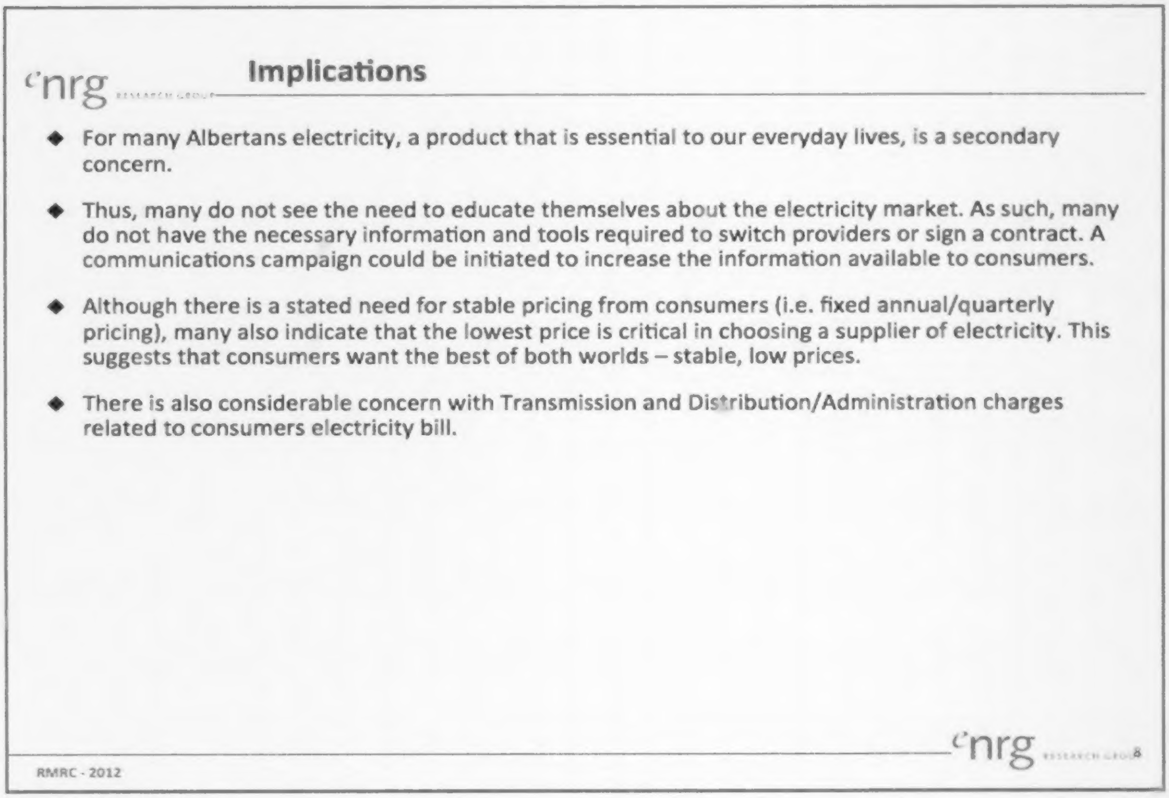
- Telephone based interviews with a random sample of Albertans. Respondents were randomly contacted using a random digit dial methodology.
- A total of 2,000 customer interviews were conducted between May 11th and May 22nd, 2012. Interviews were completed in proportion to population across the five main regions of the province. The margin of error on 2,000 interviews is ±2.19%. The number of interviews by region can be found in the demographics section of this report.
- Data for this study has been weighted by age and gender.
- Margin of error:
  - Overall: ± 2.19%, 19 times out of 20 (n=2,000).
    - Sub-sample margin of error will be higher.
- The questionnaire was jointly developed by the Retail Markets Review Committee and NRG Research Group. On average the interview took 15 minutes to complete.

Key Findings & Implications



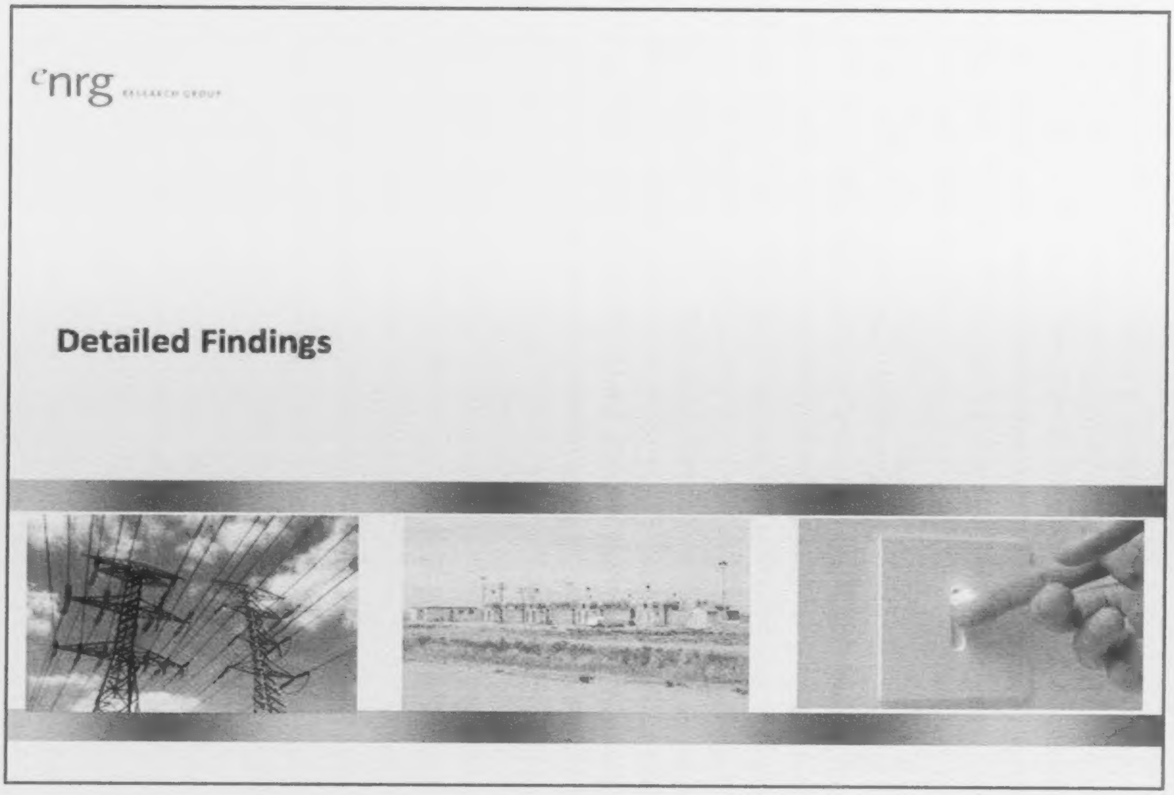
Key Findings

- To Albertans, electricity prices are a secondary concern, substantially trailing the traditional concerns of education and healthcare.
- Albertans awareness of choice in buying the electricity used in their homes is high and they also believe that it is important to have a choice. However, while most state that they have enough information to make a decision on which electricity provider to use, a large number indicate that they do not have enough information to make a decision on which electricity provider to use.
- There is a preference among Albertans for fixed annual pricing for the electricity that they use in their homes when presented with options that included pricing. This suggests that consumers want stability in pricing that will allow them to budget accordingly. However, when presented with options that did not include price, the majority would prefer the lowest possible price – even if it changes frequently.
- Price is the overwhelming consideration for consumers when making a choice about electricity. However, there is also an indication that consumers lack the necessary information and tools to make an informed decision.
- Consumers also indicate a concern with Transmission and Distribution/Administration charges related to the delivery of the electricity used in their homes.
- However, looking at the bigger picture few 'dread' their electricity bill on a monthly basis.
- The majority of Albertans believe that the RRO/Default Rate should remain in place.



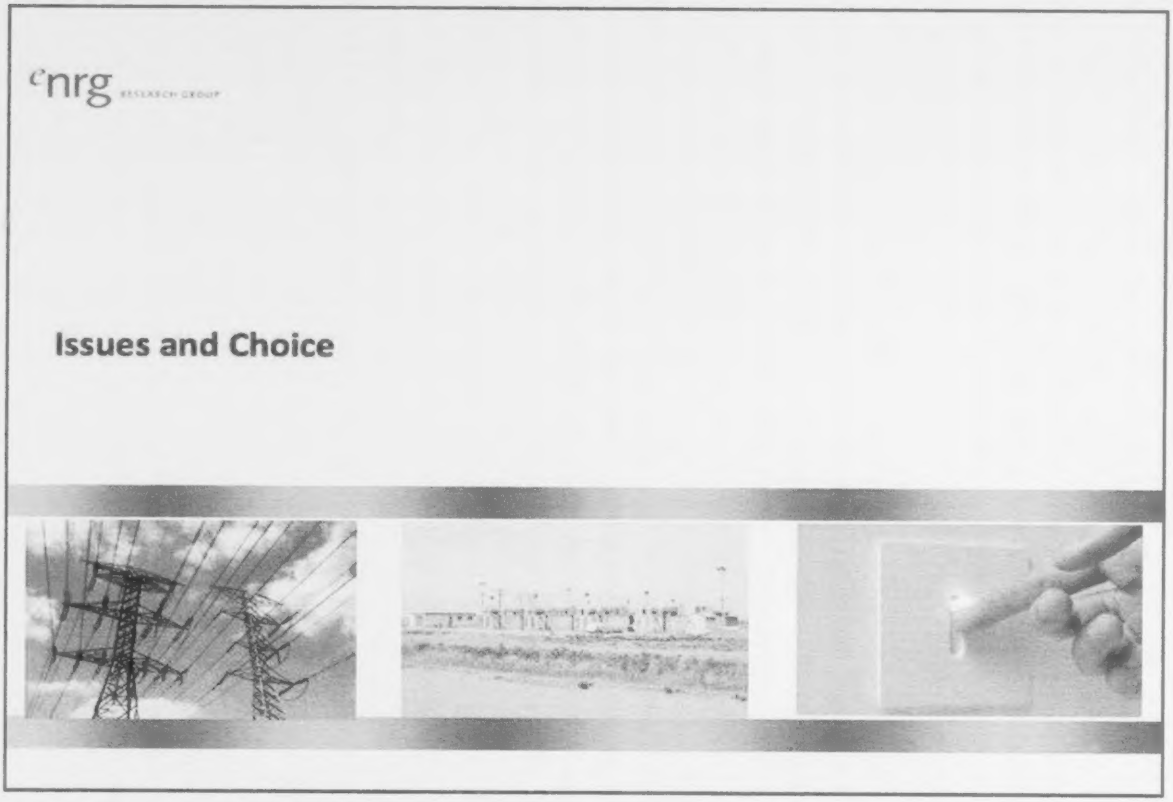
Implications

- For many Albertans electricity, a product that is essential to our everyday lives, is a secondary concern.
- Thus, many do not see the need to educate themselves about the electricity market. As such, many do not have the necessary information and tools required to switch providers or sign a contract. A communications campaign could be initiated to increase the information available to consumers.
- Although there is a stated need for stable pricing from consumers (i.e. fixed annual/quarterly pricing), many also indicate that the lowest price is critical in choosing a supplier of electricity. This suggests that consumers want the best of both worlds – stable, low prices.
- There is also considerable concern with Transmission and Distribution/Administration charges related to consumers electricity bill.



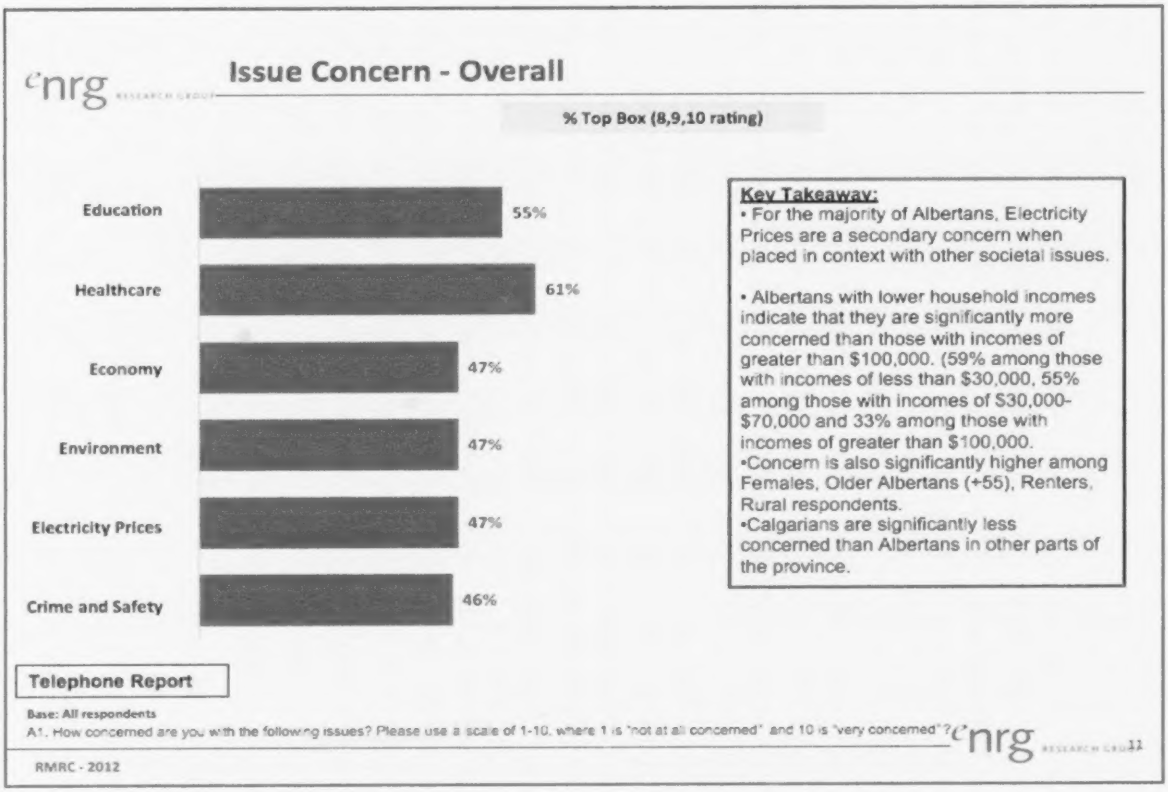
enrg RESEARCH GROUP

Detailed Findings



enrg RESEARCH GROUP

Issues and Choice



Issue Concern - Overall

Key Takeaway:

- For the majority of Albertans, Electricity Prices are a secondary concern when placed in context with other societal issues.

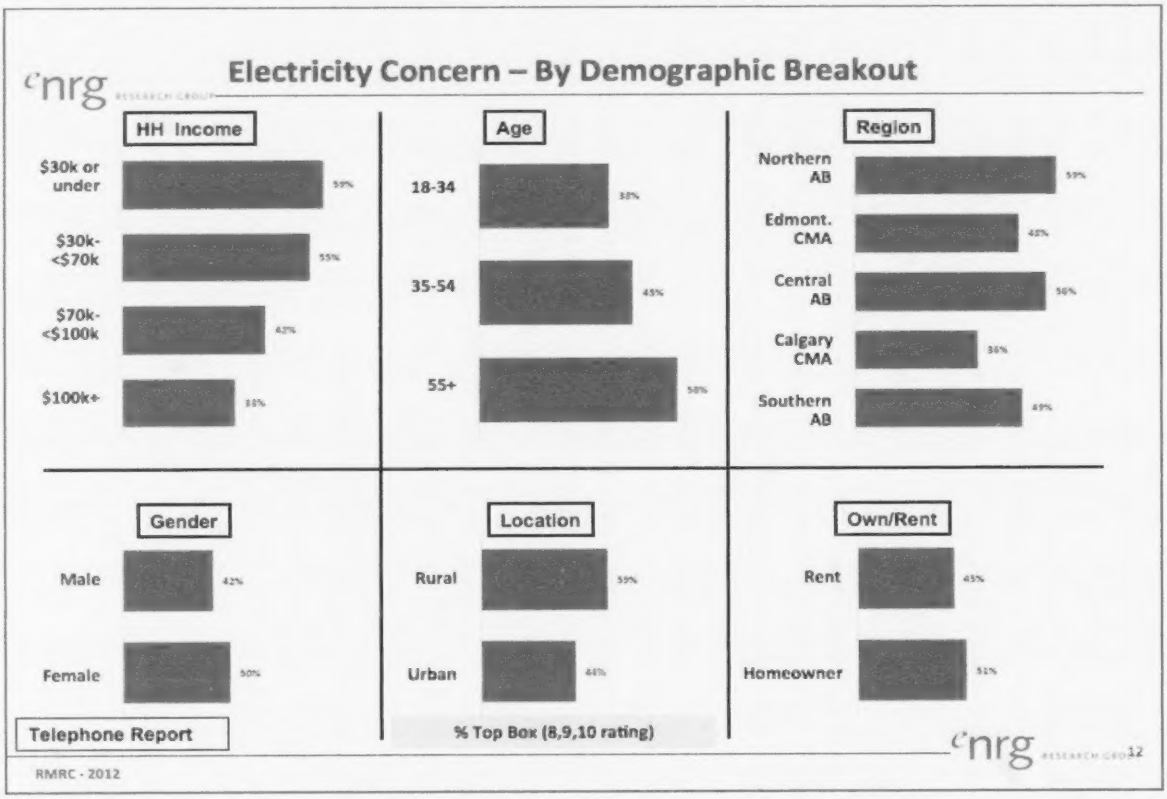
- Albertans with lower household incomes indicate that they are significantly more concerned than those with incomes of greater than $100,000. (59% among those with incomes of less than $30,000, 55% among those with incomes of $30,000-$70,000 and 33% among those with incomes of greater than $100,000.
- Concern is also significantly higher among Females, Older Albertans (+55), Renters, Rural respondents.
- Calgarians are significantly less concerned than Albertans in other parts of the province.

Telephone Report

Base: All respondents

A1. How concerned are you with the following issues? Please use a scale of 1-10, where 1 is "not at all concerned" and 10 is "very concerned"?

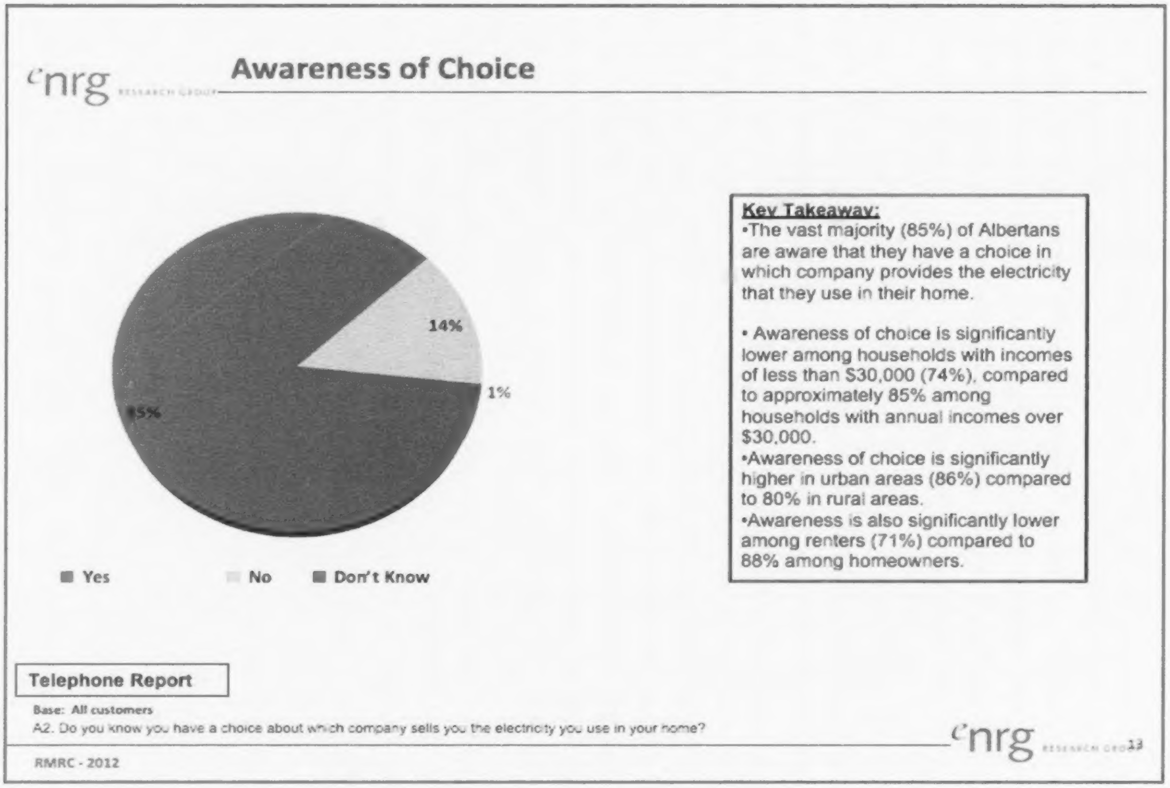
RMRC - 2012 11



Electricity Concern – By Demographic Breakout

Telephone Report

RMRC - 2012 12



Awareness of Choice

Key Takeaway:

- The vast majority (85%) of Albertans are aware that they have a choice in which company provides the electricity that they use in their home.
- Awareness of choice is significantly lower among households with incomes of less than $30,000 (74%), compared to approximately 85% among households with annual incomes over $30,000.
- Awareness of choice is significantly higher in urban areas (86%) compared to 80% in rural areas.
- Awareness is also significantly lower among renters (71%) compared to 88% among homeowners.

Telephone Report

Base: All customers

A2. Do you know you have a choice about which company sells you the electricity you use in your home?

RMRC - 2012

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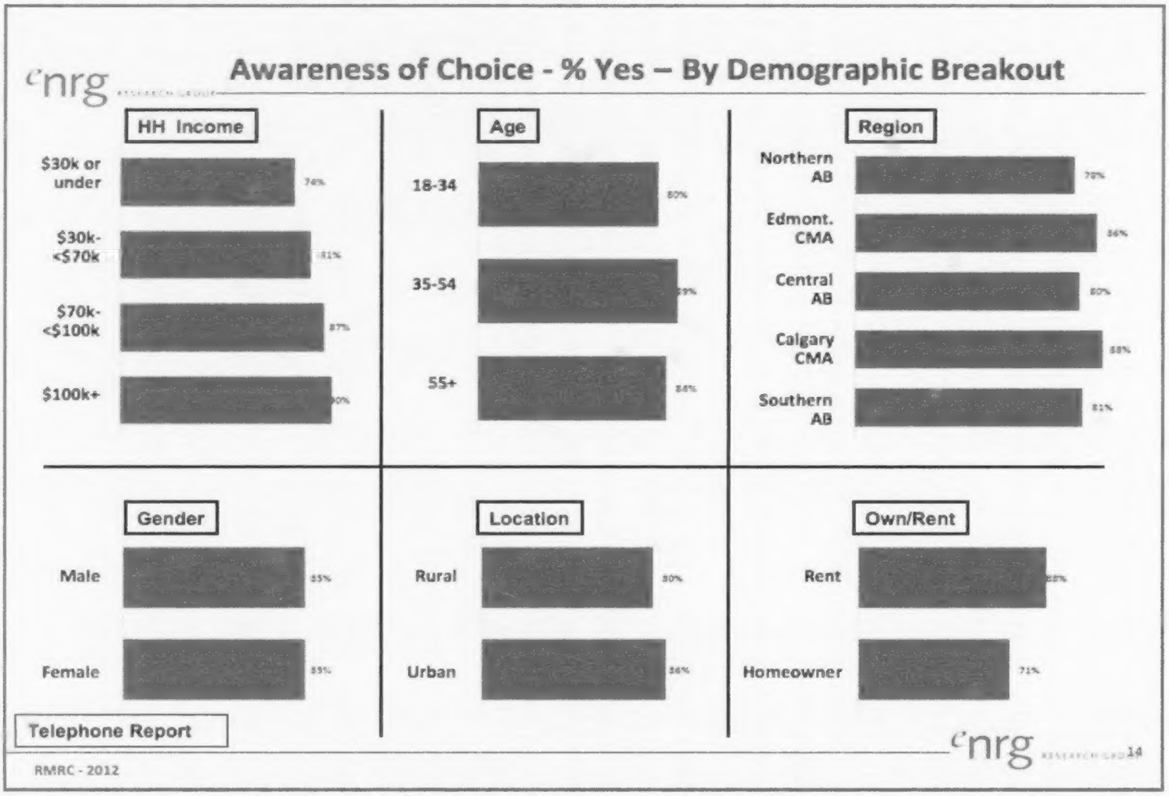

Awareness of Choice - % Yes – By Demographic Breakout

Telephone Report

RMRC - 2012

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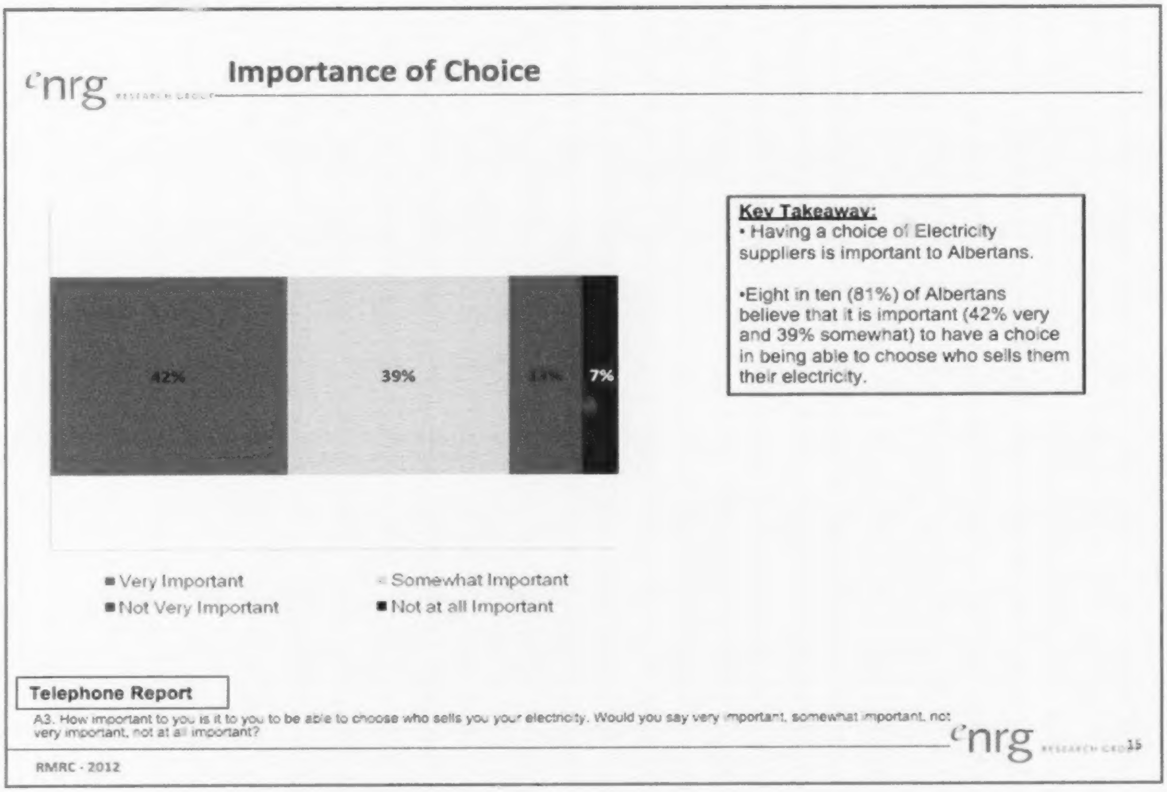


Importance of Choice

Key Takeaway:

- Having a choice of Electricity suppliers is important to Albertans.

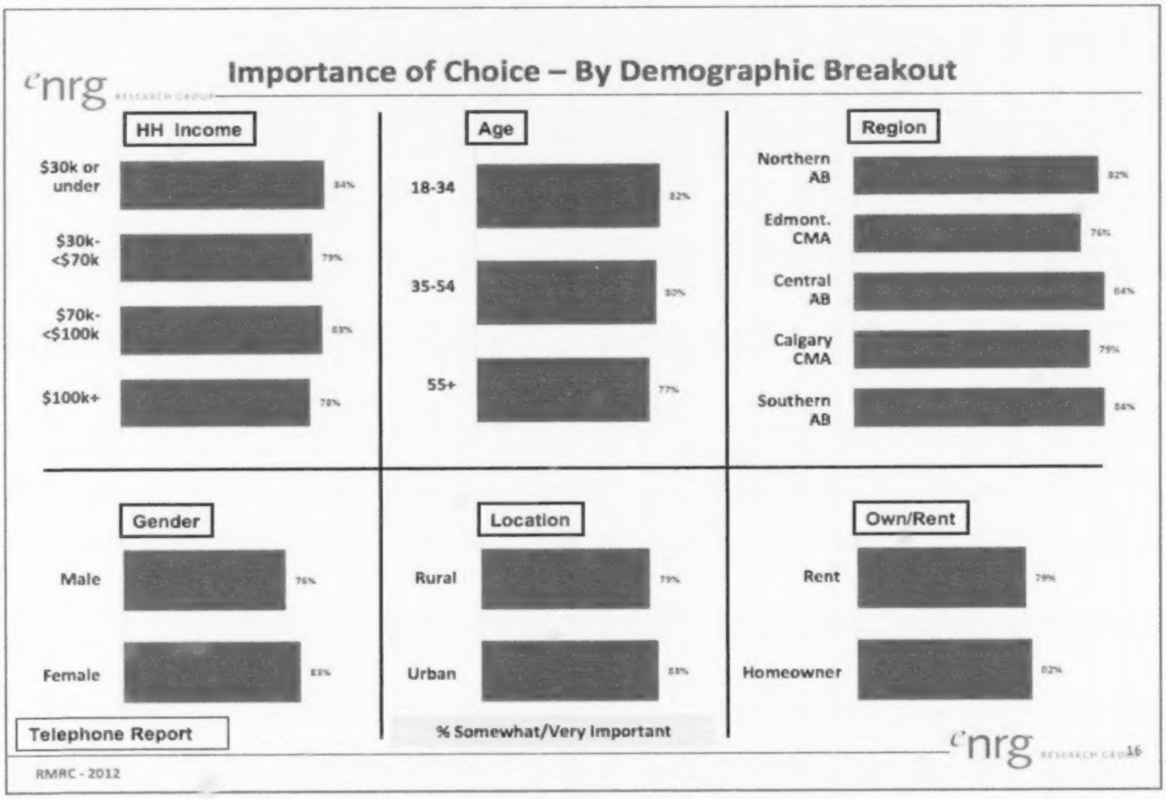
•Eight in ten (81%) of Albertans believe that it is important (42% very and 39% somewhat) to have a choice in being able to choose who sells them their electricity.

Telephone Report

A3. How important to you is it to you to be able to choose who sells you your electricity. Would you say very important, somewhat important, not very important, not at all important?

RMRC - 2012

15

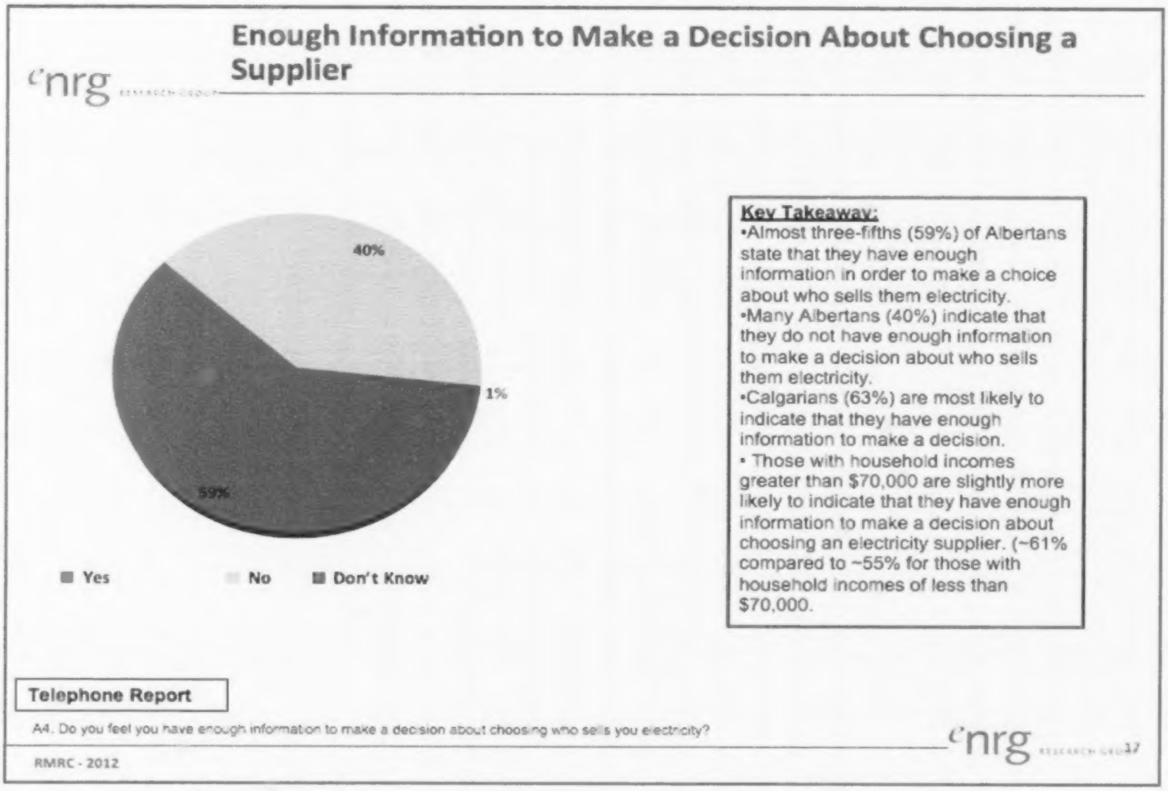


Importance of Choice – By Demographic Breakout

Telephone Report

RMRC - 2012

16



Enough Information to Make a Decision About Choosing a Supplier

Key Takeaway:

- Almost three-fifths (59%) of Albertans state that they have enough information in order to make a choice about who sells them electricity.
- Many Albertans (40%) indicate that they do not have enough information to make a decision about who sells them electricity.
- Calgarians (63%) are most likely to indicate that they have enough information to make a decision.
- Those with household incomes greater than $70,000 are slightly more likely to indicate that they have enough information to make a decision about choosing an electricity supplier. (~61% compared to ~55% for those with household incomes of less than $70,000.

Telephone Report

A4. Do you feel you have enough information to make a decision about choosing who sells you electricity?

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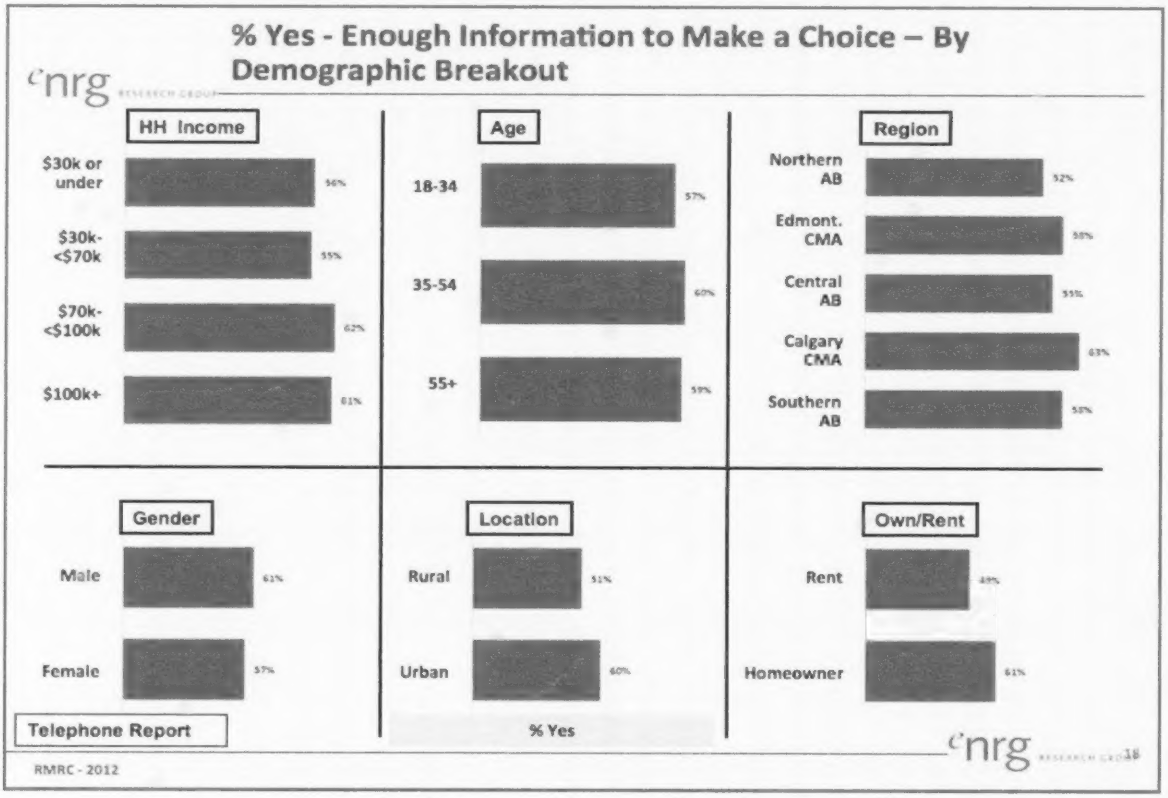
17

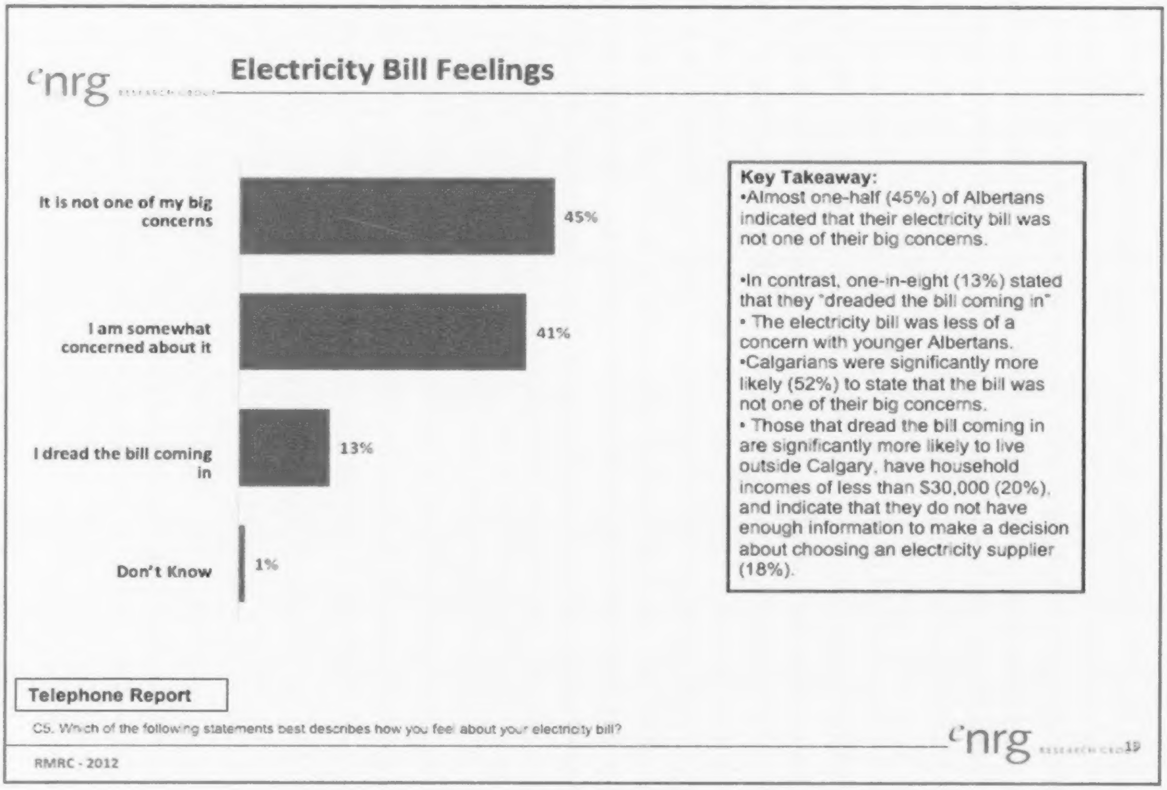


% Yes - Enough Information to Make a Choice – By Demographic Breakout

Telephone Report

RMRC - 2012

18



Electricity Bill Feelings

Key Takeaway:

- Almost one-half (45%) of Albertans indicated that their electricity bill was not one of their big concerns.

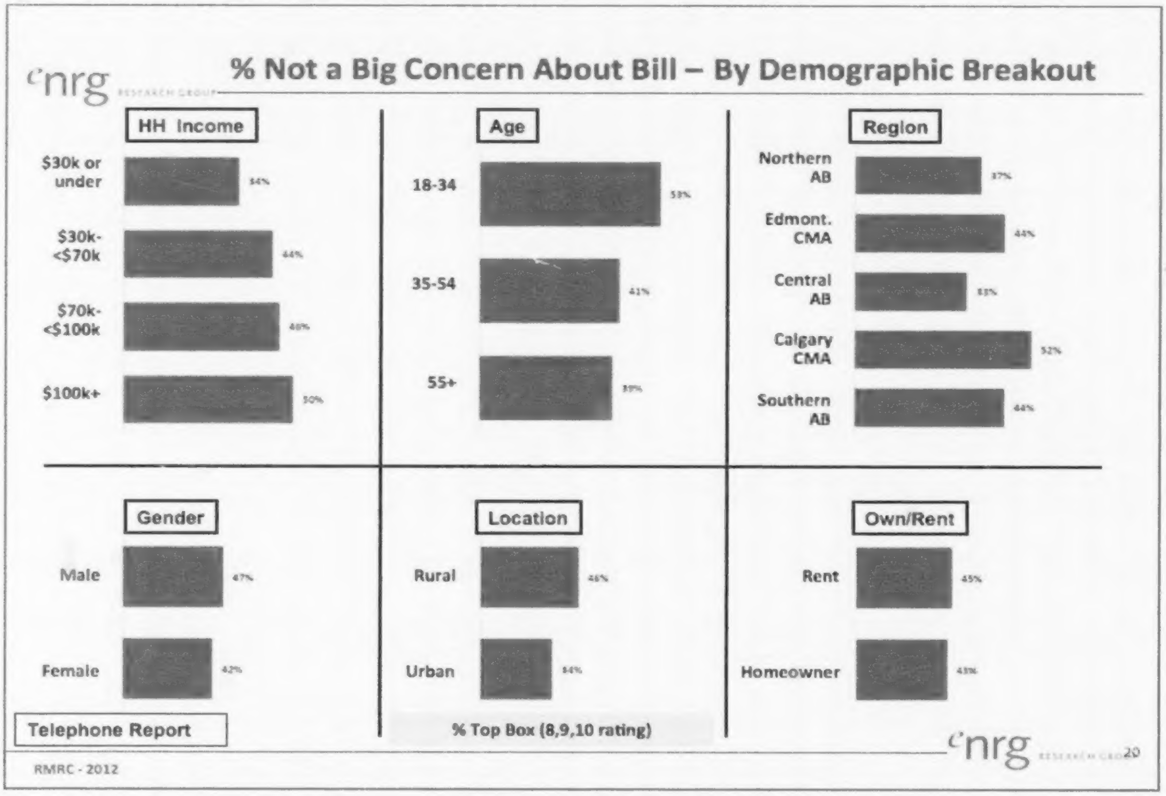
- In contrast, one-in-eight (13%) stated that they "dreaded the bill coming in"
- The electricity bill was less of a concern with younger Albertans.
- Calgarians were significantly more likely (52%) to state that the bill was not one of their big concerns.
- Those that dread the bill coming in are significantly more likely to live outside Calgary, have household incomes of less than $30,000 (20%), and indicate that they do not have enough information to make a decision about choosing an electricity supplier (18%).

Telephone Report

C5. Which of the following statements best describes how you feel about your electricity bill?

RMRC - 2012

19



% Not a Big Concern About Bill – By Demographic Breakout

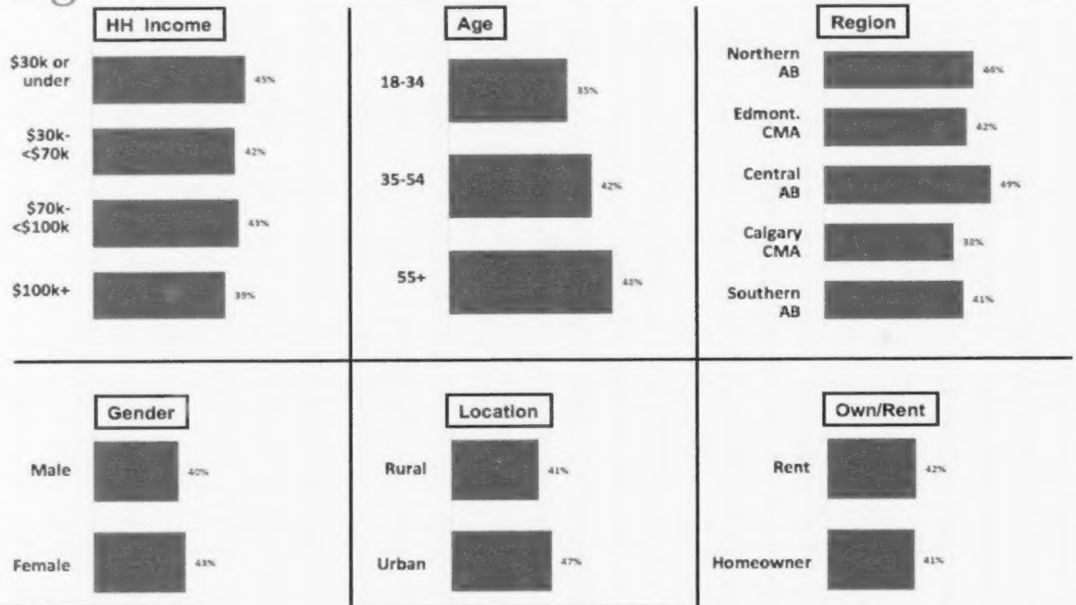
Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

20

% Somewhat Concerned About Bill – By Demographic Breakout

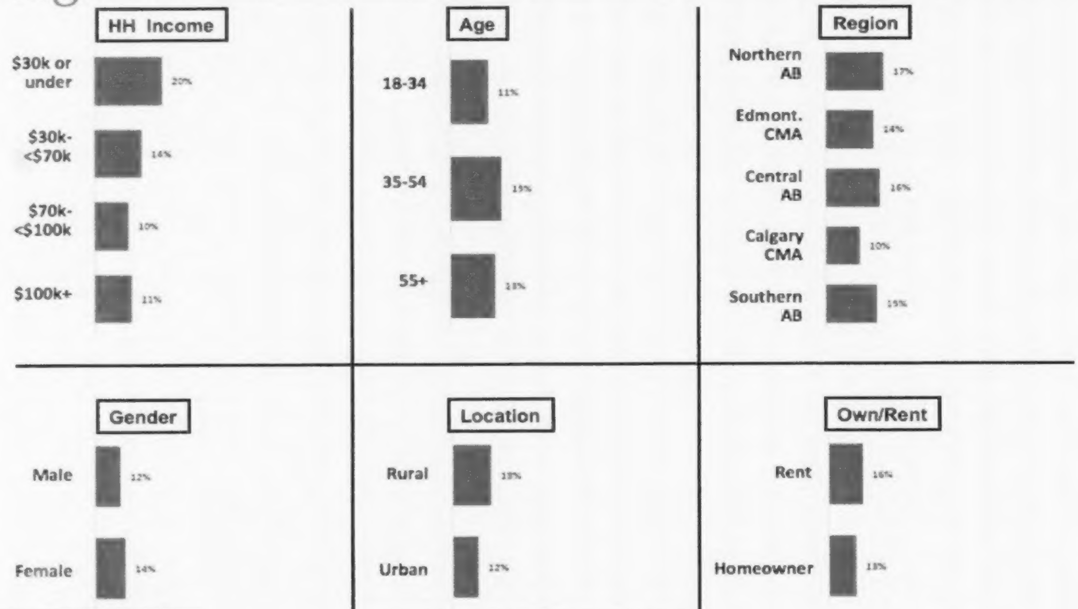


Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

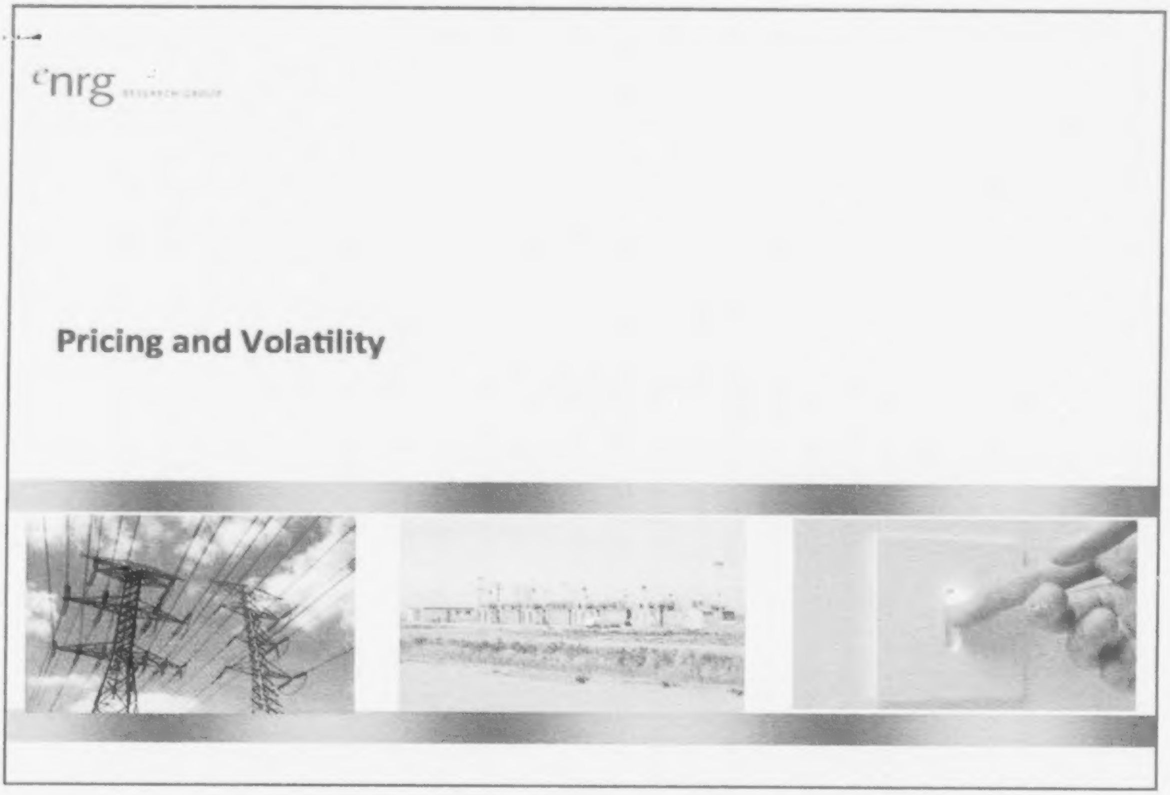
% Dread the Bill Coming In – By Demographic Breakout



Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012



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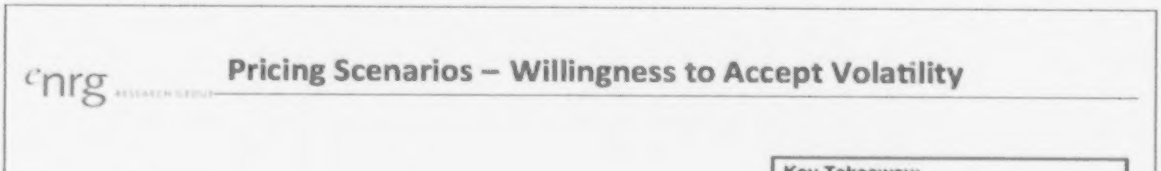
Pricing and Volatility



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Pricing Scenarios – Willingness to Accept Volatility

Key Takeaway:

- When presented with three options for the pricing of electricity one-half (52%) of Albertans indicate that they prefer a fixed annual price.
- Those that prefer a fixed annual price are significantly more likely to be more than 55 years of age, to live in a rural area, not live in Calgary, be renters, and have household income of less than $70,000.
- One-third (33%) state that they do not mind if the price changes every month. This group of Albertans are significantly more likely to have household incomes in excess of $70,000. Four-in-ten (40%) with household incomes greater than $100,000 state that they do not mind if the price is different every month.

Telephone Report

Base: All respondents

A7. Your electricity bill has two parts. One is the cost of the electricity you use. The second is the cost to get the electricity from the generating plant to your home. Speaking just about the electricity that you use, which of the following pricing scenarios best suits how you would like to buy electricity?

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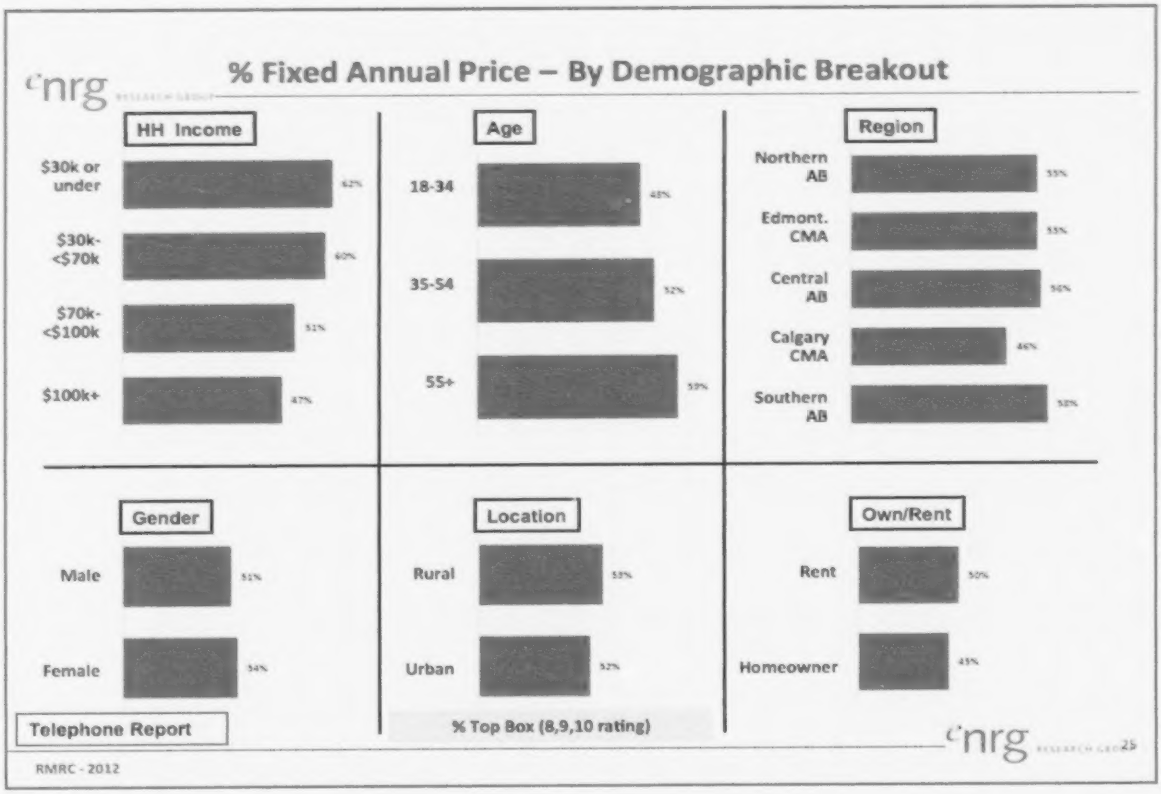
RMRC - 2012



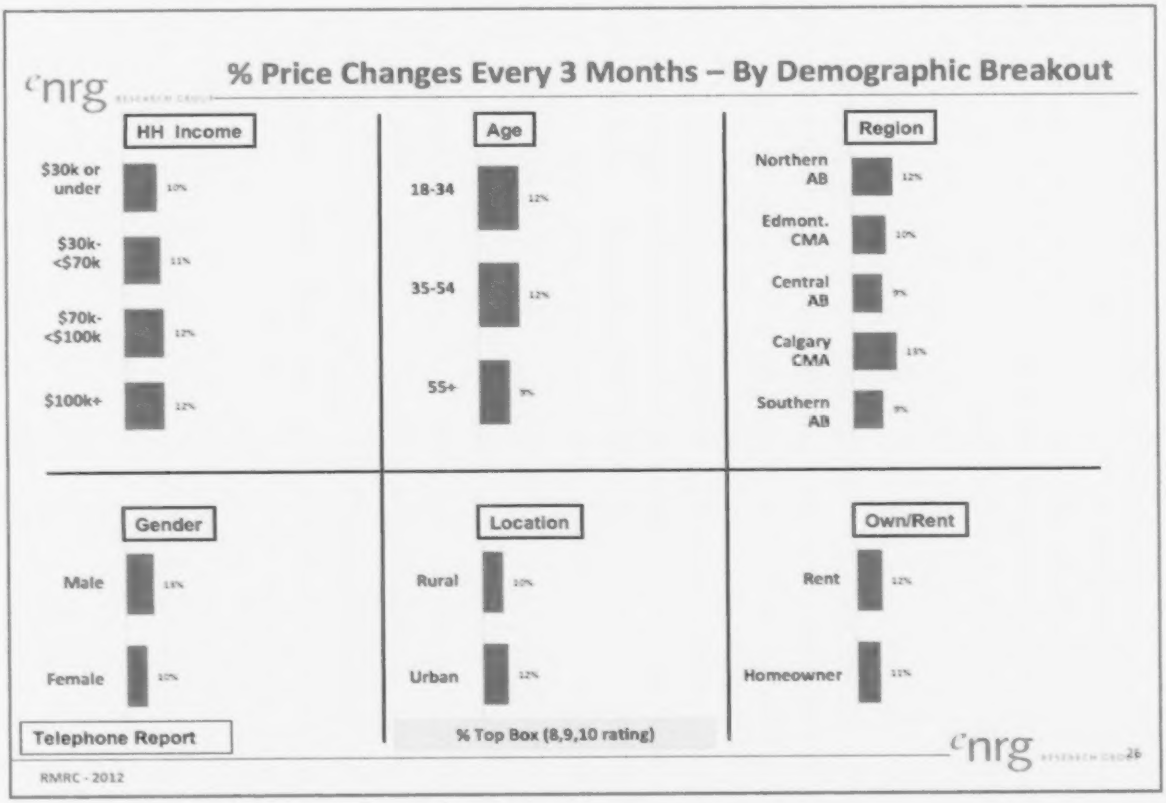
% Fixed Annual Price – By Demographic Breakout

Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

25



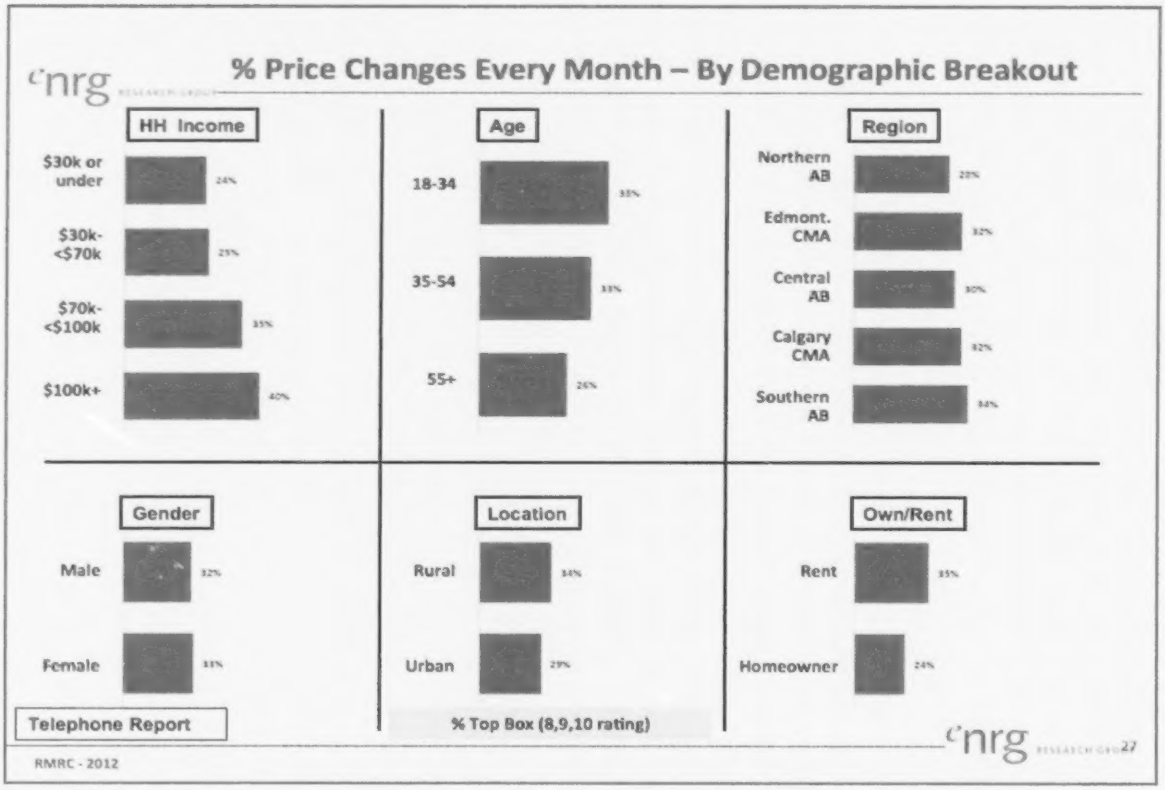
% Price Changes Every 3 Months – By Demographic Breakout

Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

26



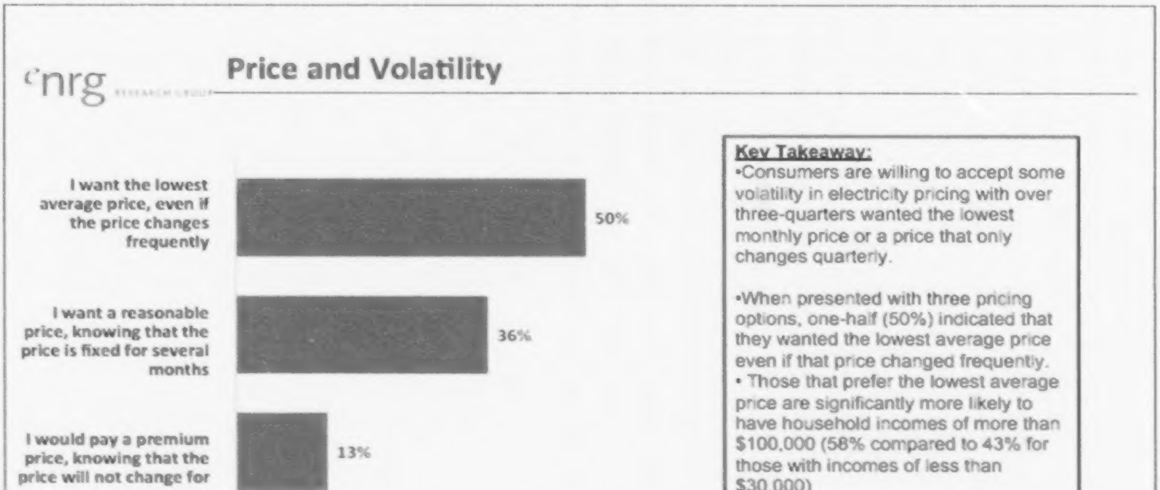
% Price Changes Every Month – By Demographic Breakout

Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

27



Price and Volatility

Key Takeaway:

- Consumers are willing to accept some volatility in electricity pricing with over three-quarters wanted the lowest monthly price or a price that only changes quarterly.

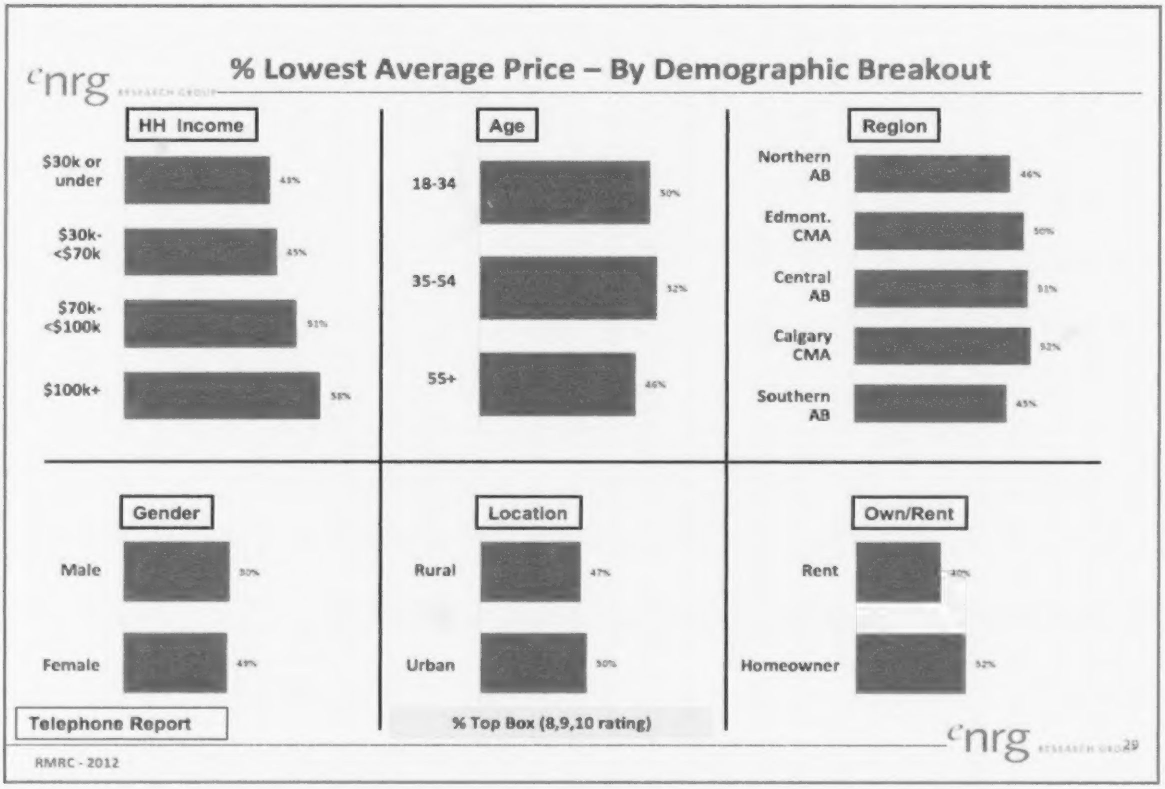
- When presented with three pricing options, one-half (50%) indicated that they wanted the lowest average price even if that price changed frequently.
- Those that prefer the lowest average price are significantly more likely to have household incomes of more than $100,000 (58% compared to 43% for those with incomes of less than $30,000)
- An additional one-third (36%) indicated that they would prefer a reasonable price knowing that it would be fixed for several months.
- Those that preferred a premium price, knowing that it would be fixed for a year, or more were more likely to have household incomes of less than $70,000 (19% less than $30,000 and $17% $30,000-$70,000)

Telephone Report

C4. Which of the following is most important to you when you are buying electricity?

RMRC - 2012

28



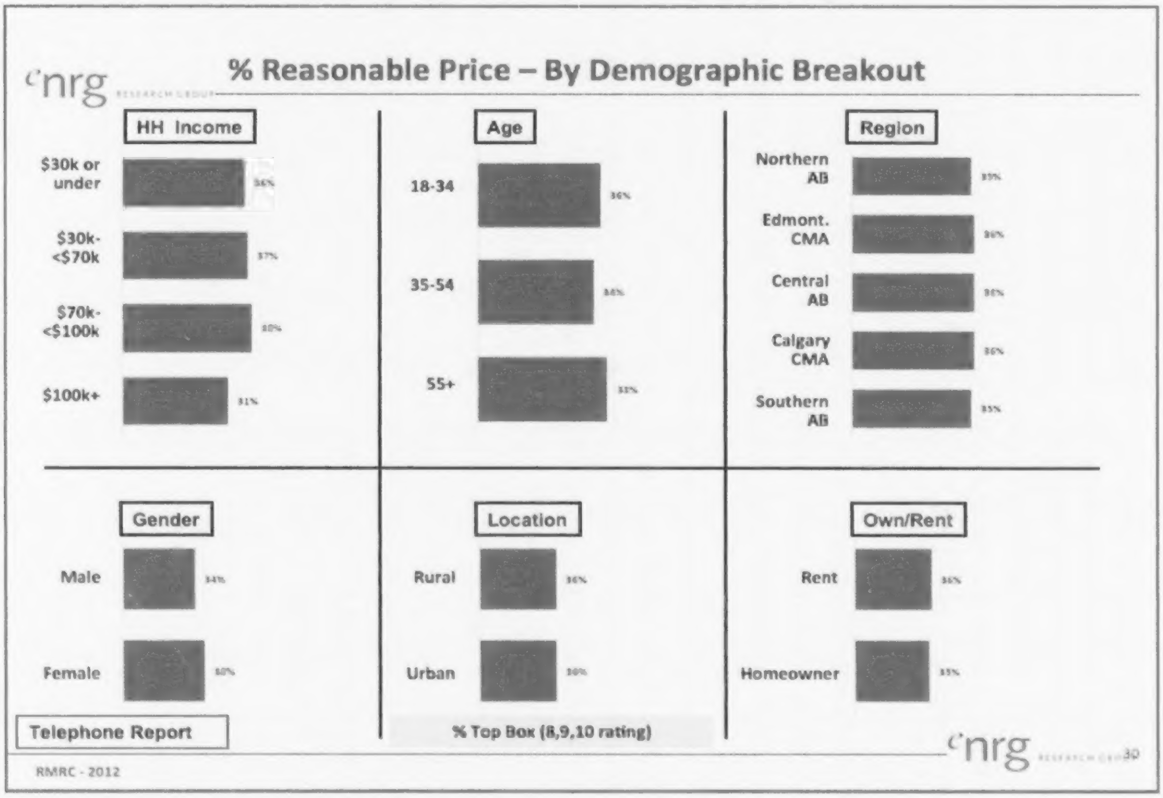
% Lowest Average Price – By Demographic Breakout

Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

29



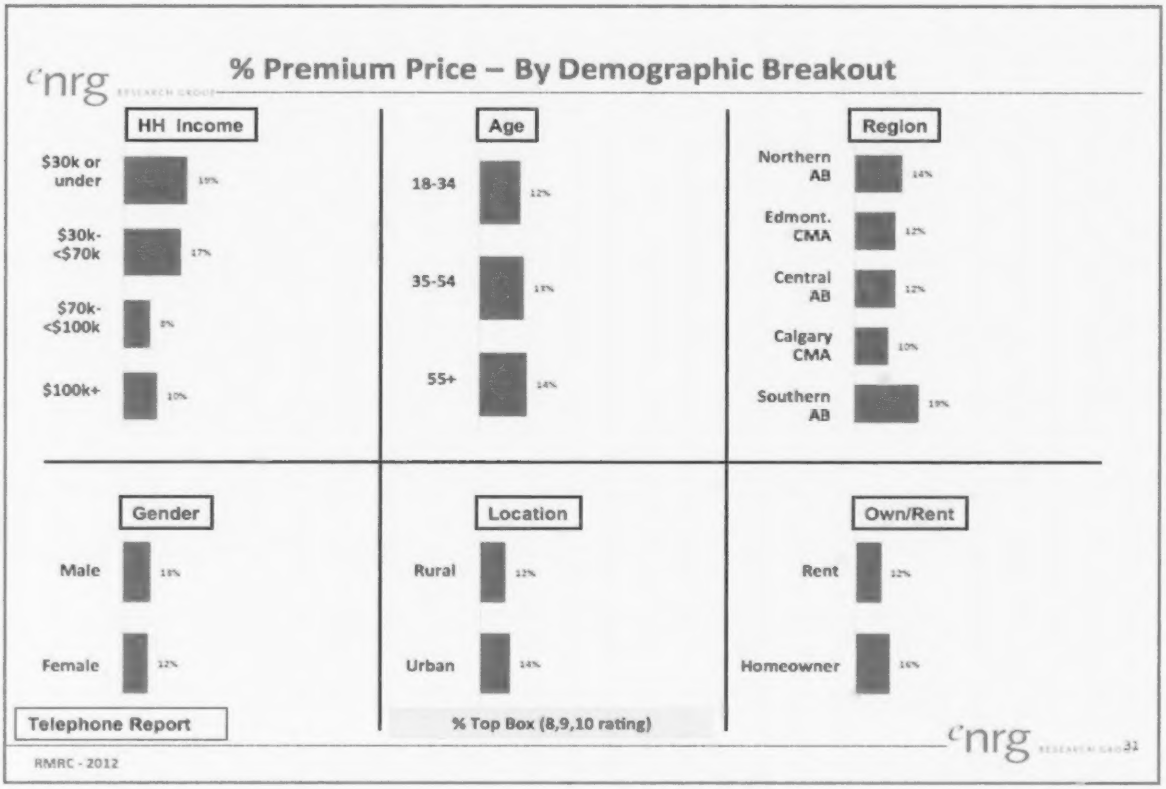
% Reasonable Price – By Demographic Breakout

Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

30



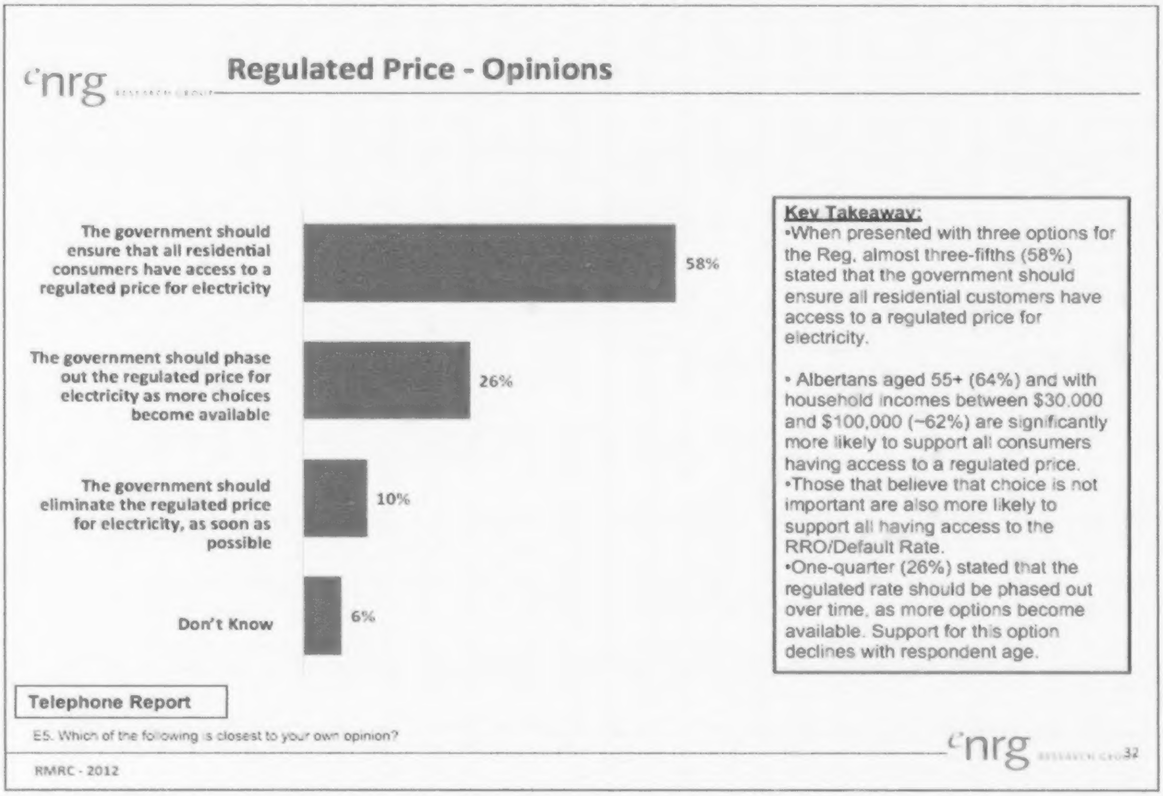
% Premium Price – By Demographic Breakout

Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

31



Regulated Price - Opinions

Key Takeaway:

- When presented with three options for the Reg, almost three-fifths (58%) stated that the government should ensure all residential customers have access to a regulated price for electricity.
- Albertans aged 55+ (64%) and with household incomes between $30,000 and $100,000 (~62%) are significantly more likely to support all consumers having access to a regulated price.
- Those that believe that choice is not important are also more likely to support all having access to the RRO/Default Rate.
- One-quarter (26%) stated that the regulated rate should be phased out over time, as more options become available. Support for this option declines with respondent age.

Telephone Report

E5. Which of the following is closest to your own opinion?

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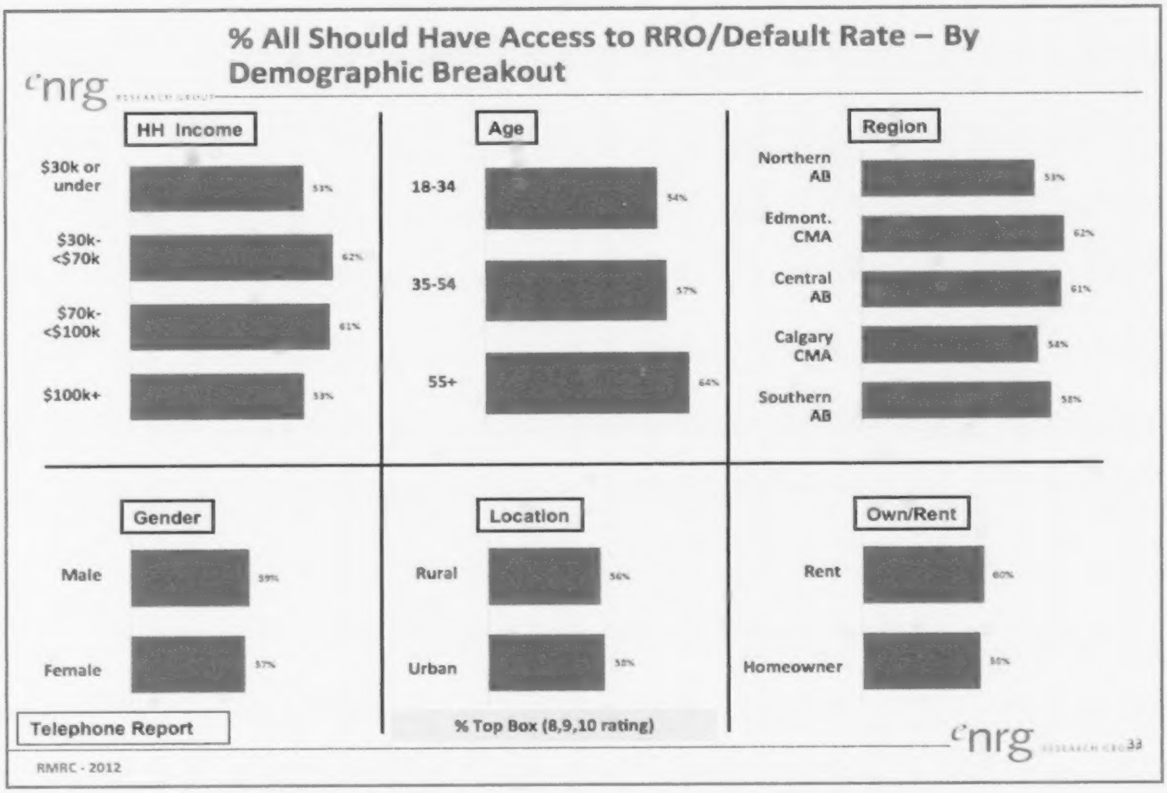
32



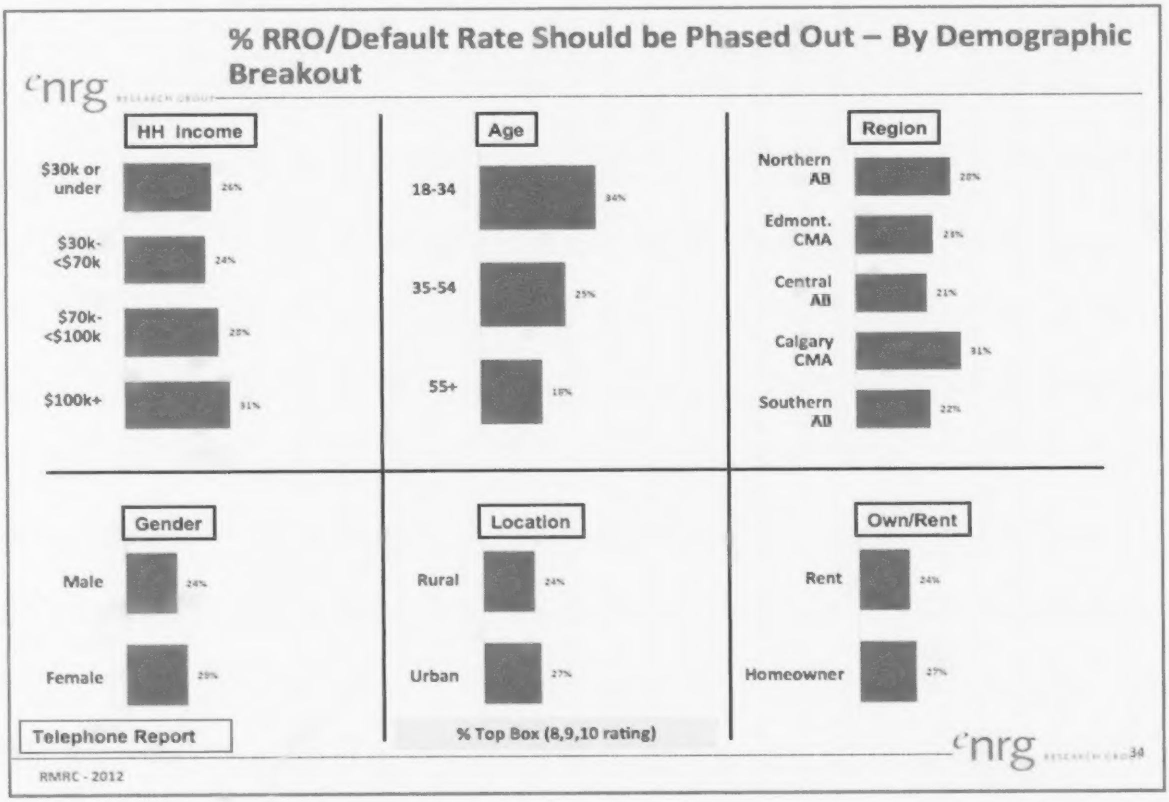
% All Should Have Access to RRO/Default Rate – By Demographic Breakout

Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

33



% RRO/Default Rate Should be Phased Out – By Demographic Breakout

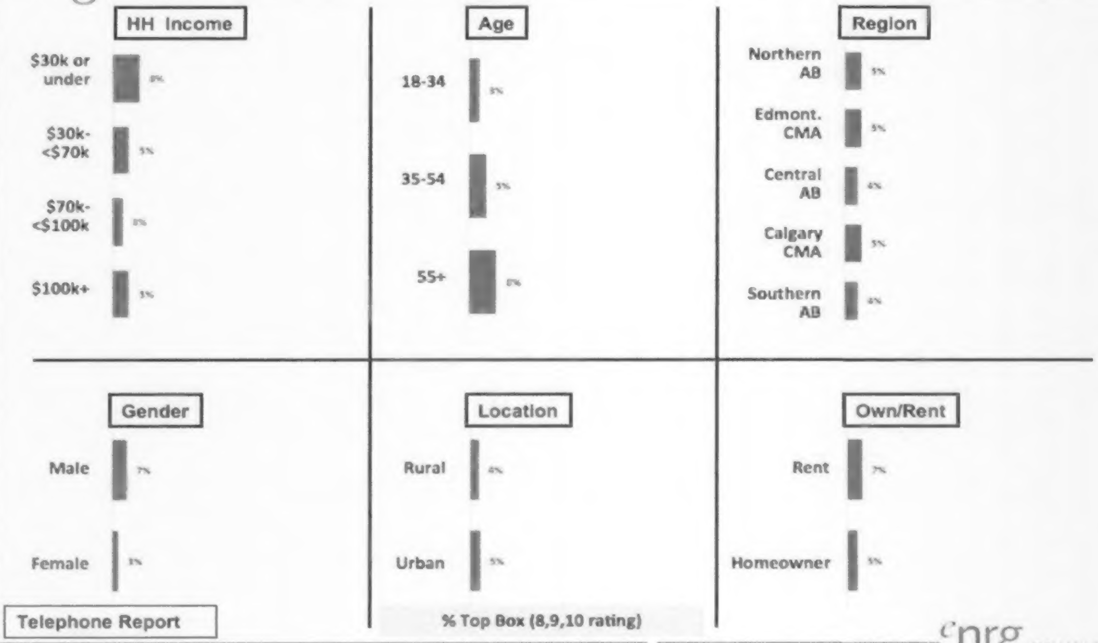
Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

34

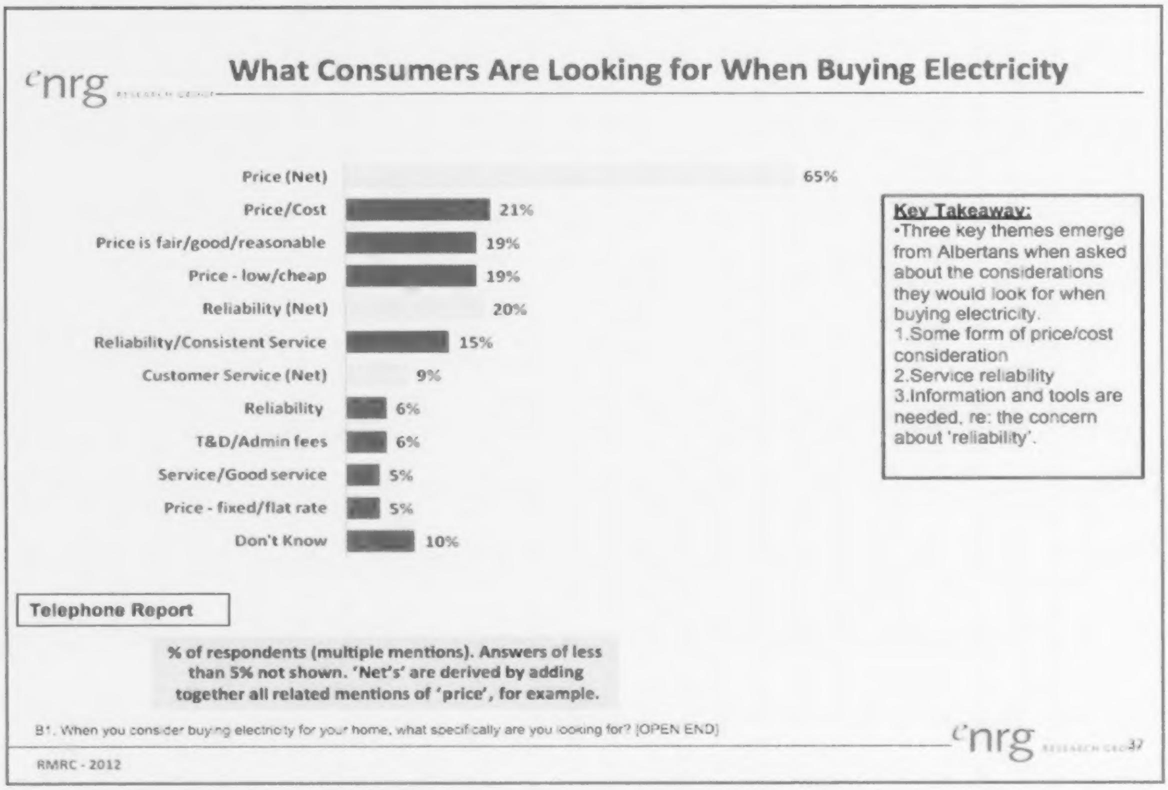
% RRO/Default Rate Should be Eliminated ASAP – By Demographic Breakout



RMRC - 2012

35

Benefits of Buying Electricity



What Consumers Are Looking for When Buying Electricity

Key Takeaway:

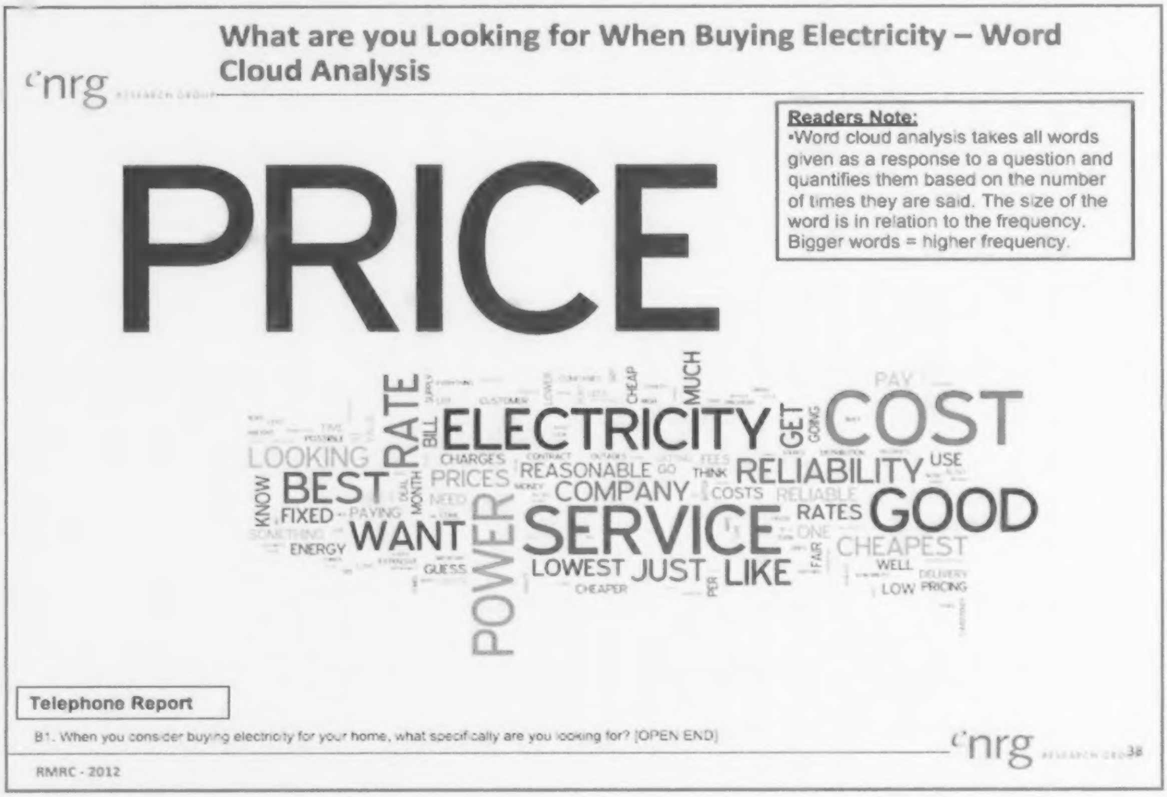
- Three key themes emerge from Albertans when asked about the considerations they would look for when buying electricity.
1. Some form of price/cost consideration
2. Service reliability
3. Information and tools are needed, re: the concern about 'reliability'.

Telephone Report

% of respondents (multiple mentions). Answers of less than 5% not shown. 'Net's' are derived by adding together all related mentions of 'price', for example.

B1. When you consider buying electricity for your home, what specifically are you looking for? [OPEN END]

RMRC - 2012



What are you Looking for When Buying Electricity – Word Cloud Analysis

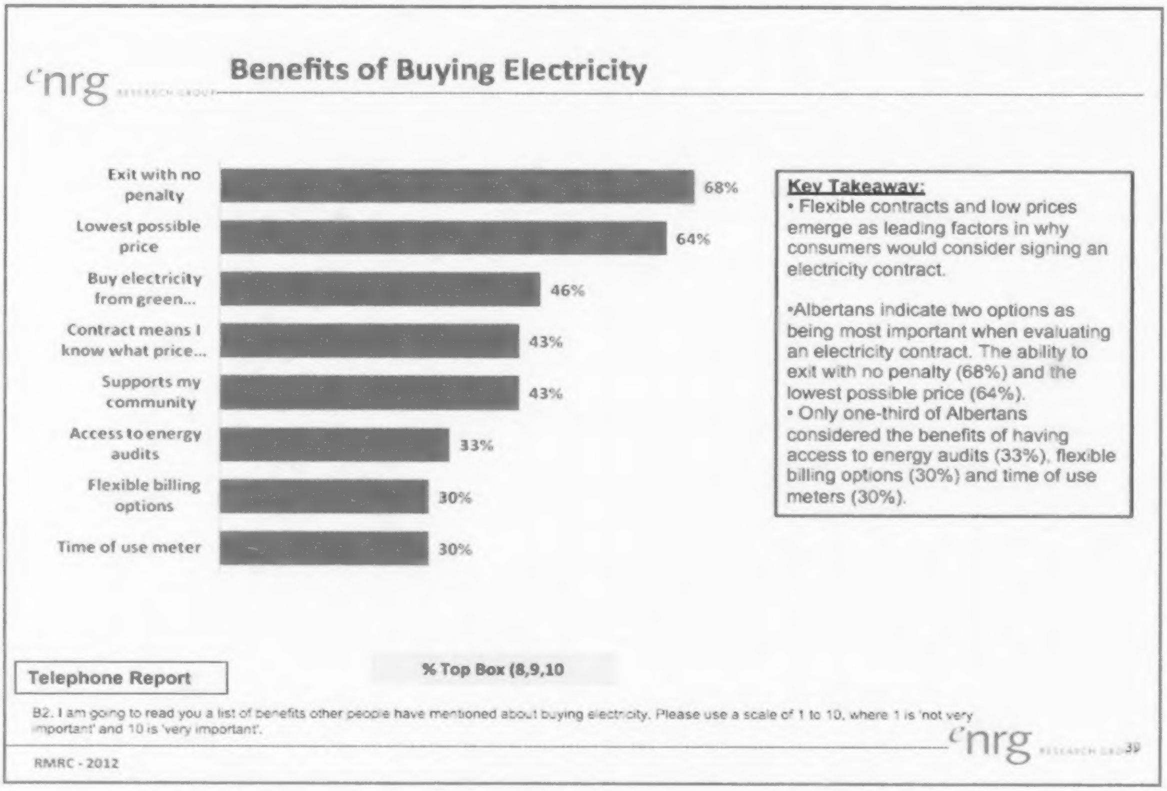
Readers Note:

- Word cloud analysis takes all words given as a response to a question and quantifies them based on the number of times they are said. The size of the word is in relation to the frequency. Bigger words = higher frequency.

Telephone Report

B1. When you consider buying electricity for your home, what specifically are you looking for? [OPEN END]

RMRC - 2012



Benefits of Buying Electricity

Key Takeaway:

- Flexible contracts and low prices emerge as leading factors in why consumers would consider signing an electricity contract.

•Albertans indicate two options as being most important when evaluating an electricity contract. The ability to exit with no penalty (68%) and the lowest possible price (64%).

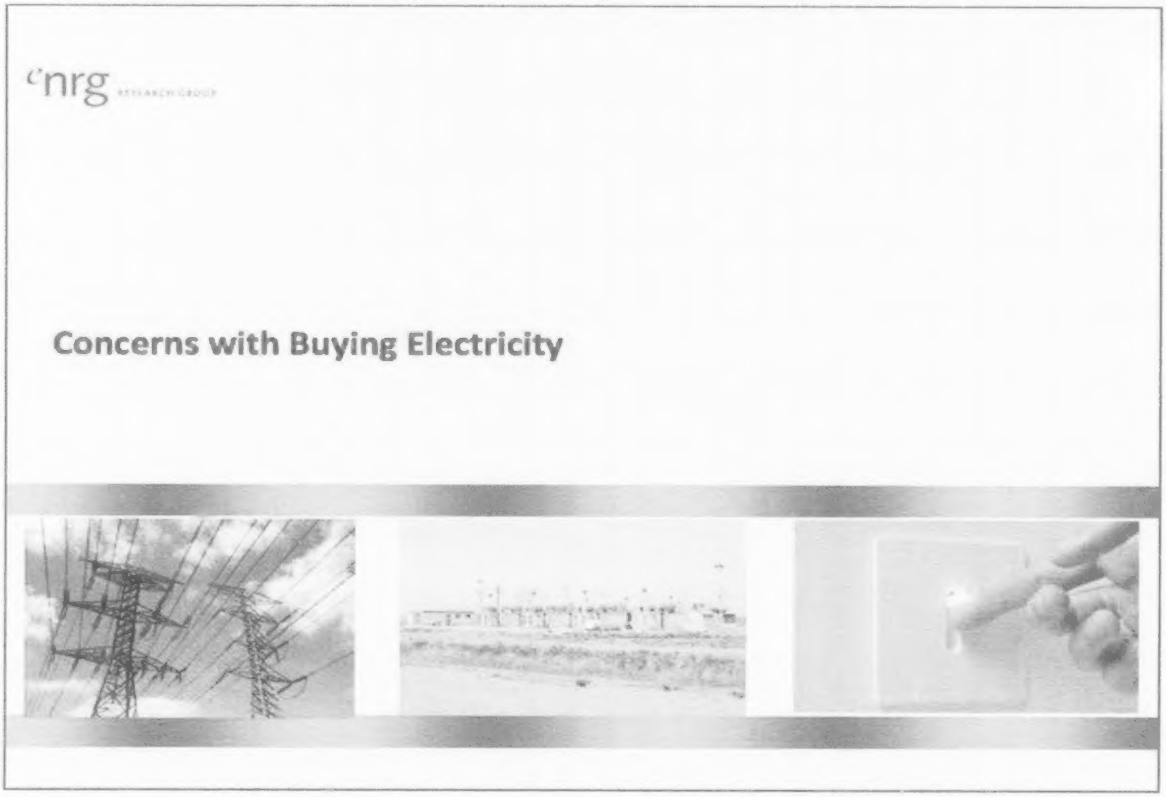
- Only one-third of Albertans considered the benefits of having access to energy audits (33%), flexible billing options (30%) and time of use meters (30%).

Telephone Report

B2. I am going to read you a list of benefits other people have mentioned about buying electricity. Please use a scale of 1 to 10, where 1 is 'not very important' and 10 is 'very important'.

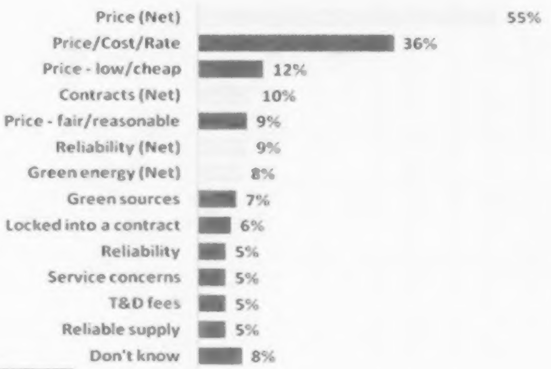
RMRC - 2012

39



Concerns with Buying Electricity

Main Concerns About Switching Electricity Companies



Key Takeaway:
- Albertans main concern about switching electricity companies is highly related to cost.
- Reliability concerns are also a consideration.
- Almost one-in-ten (8%) could not name a concern about switching electricity companies.

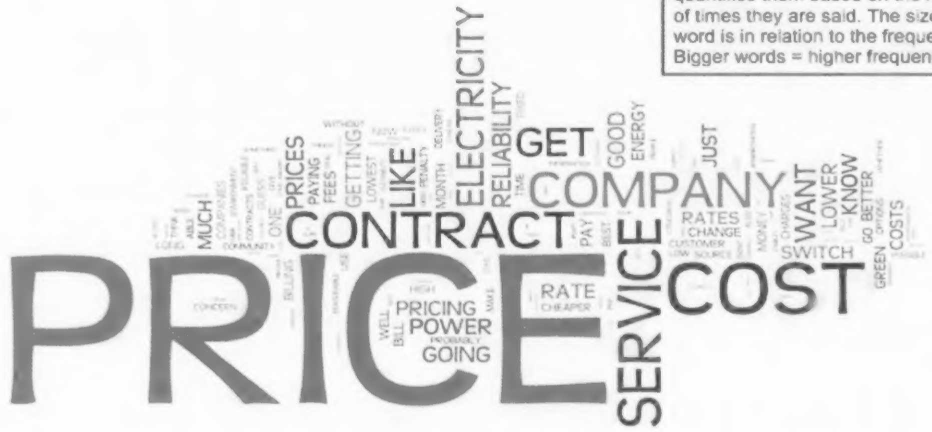
Telephone Report

% Respondents – Multiple Mentions. Only showing mentions above 5%. 'Net's' are derived by adding together all related mentions of 'price', for example.

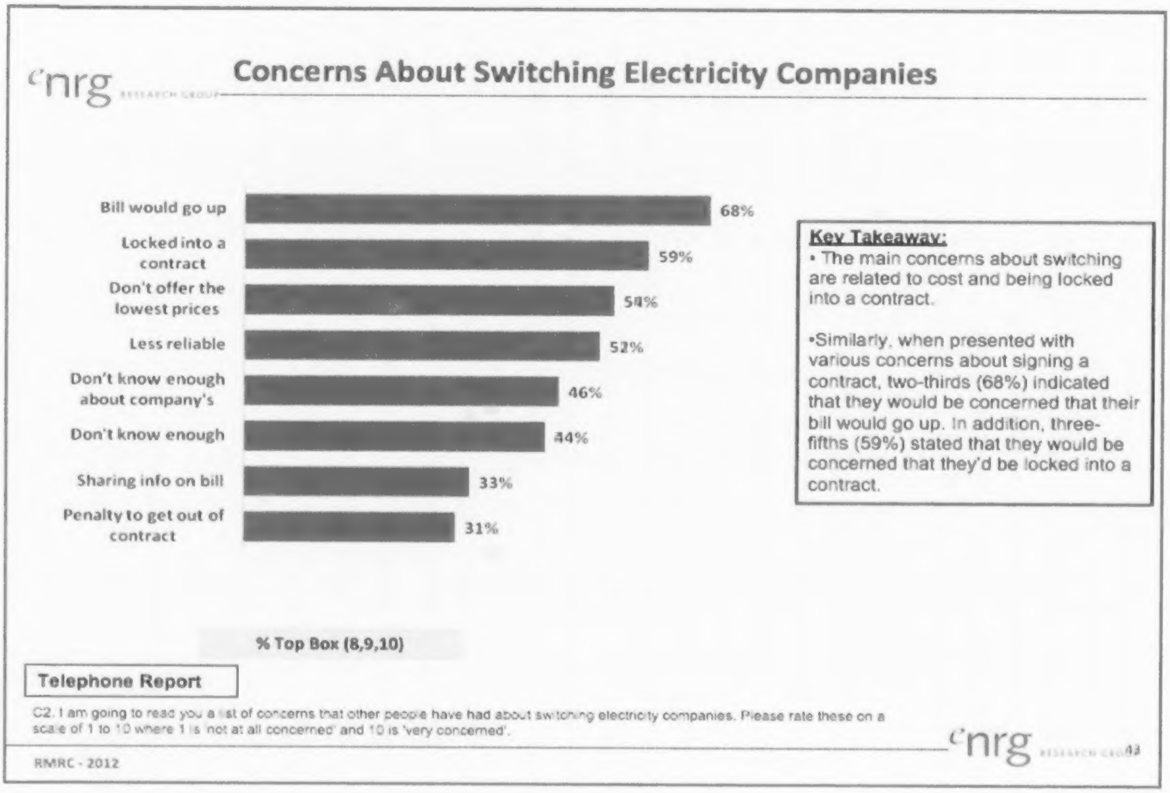
C1. If you were going to switch the company you were buying electricity from, what would be your main concerns? OPEN END – MULTIPLE MENTIONS.

Concerns with Switching Electricity Companies

Readers Note:
- Word cloud analysis takes all words given as a response to a question and quantifies them based on the number of times they are said. The size of the word is in relation to the frequency. Bigger words = higher frequency.



Telephone Report



Concerns About Switching Electricity Companies

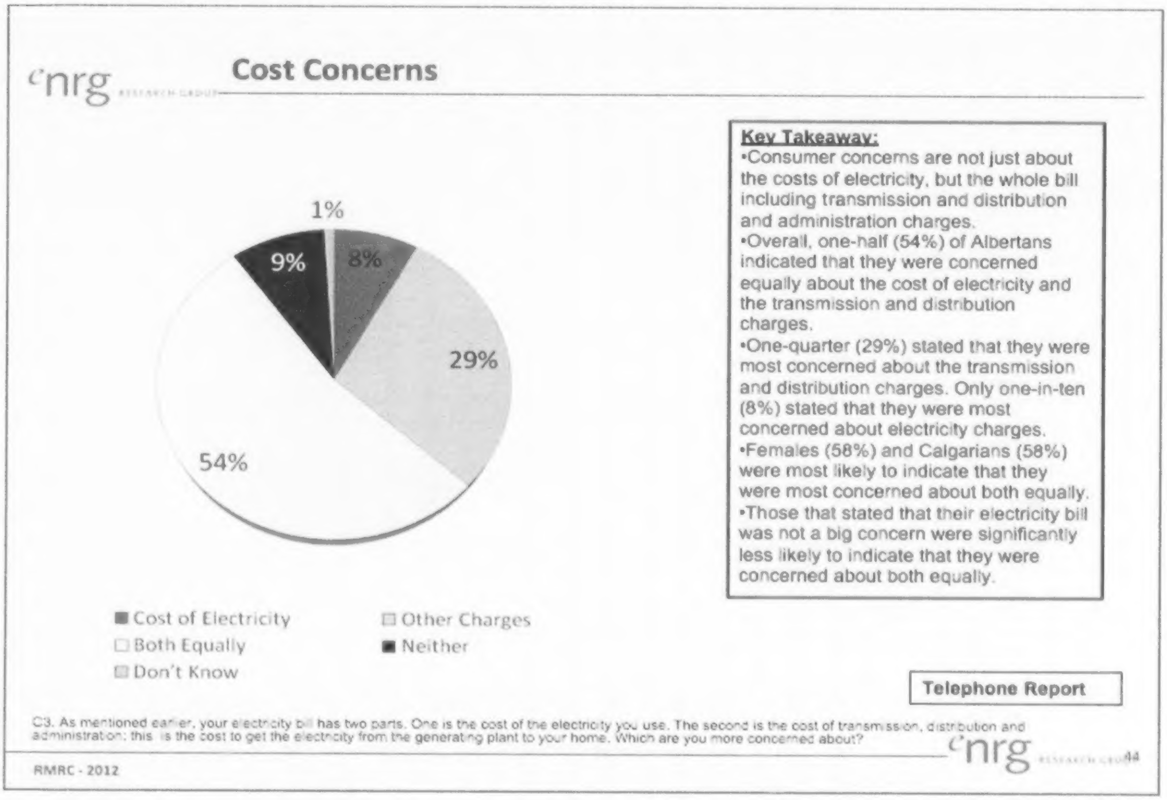
Key Takeaway:

- The main concerns about switching are related to cost and being locked into a contract.

•Similarly, when presented with various concerns about signing a contract, two-thirds (68%) indicated that they would be concerned that their bill would go up. In addition, three-fifths (59%) stated that they would be concerned that they'd be locked into a contract.

Telephone Report

C2. I am going to read you a list of concerns that other people have had about switching electricity companies. Please rate these on a scale of 1 to 10 where 1 is 'not at all concerned' and 10 is 'very concerned'.



Cost Concerns

Key Takeaway:

•Consumer concerns are not just about the costs of electricity, but the whole bill including transmission and distribution and administration charges.

•Overall, one-half (54%) of Albertans indicated that they were concerned equally about the cost of electricity and the transmission and distribution charges.

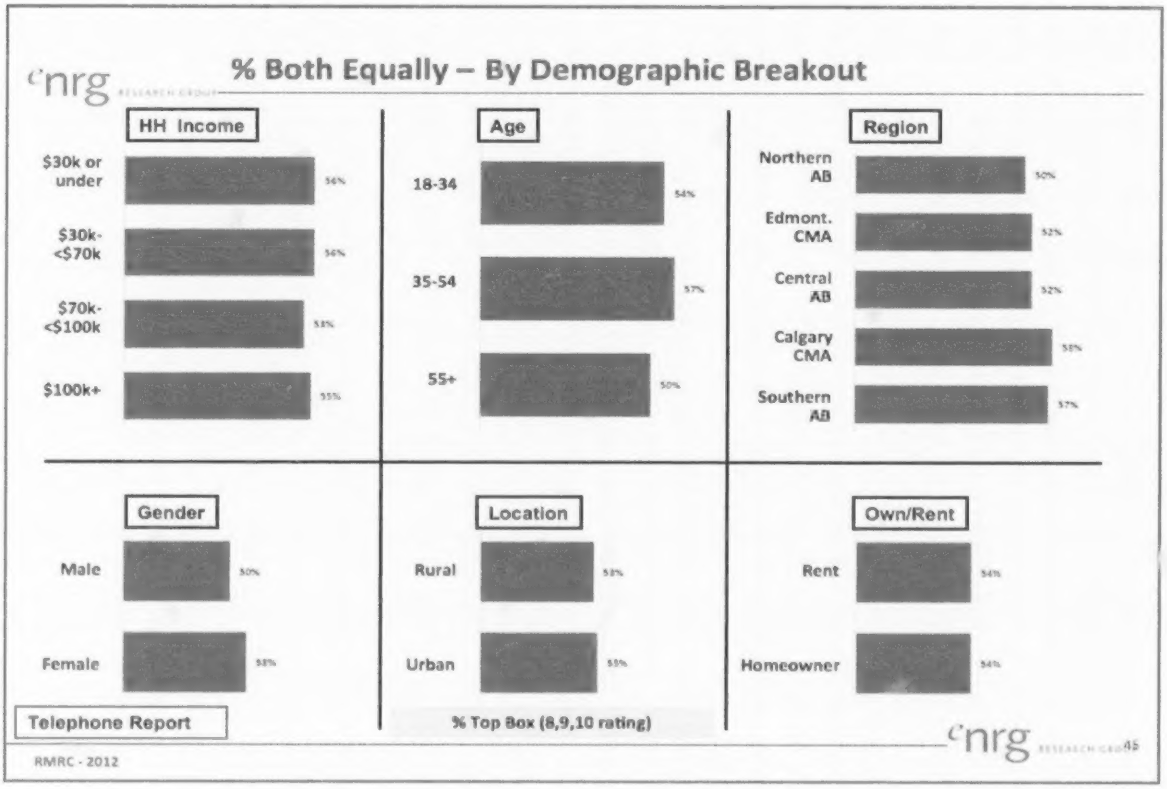
•One-quarter (29%) stated that they were most concerned about the transmission and distribution charges. Only one-in-ten (8%) stated that they were most concerned about electricity charges.

•Females (58%) and Calgarians (58%) were most likely to indicate that they were most concerned about both equally.

•Those that stated that their electricity bill was not a big concern were significantly less likely to indicate that they were concerned about both equally.

Telephone Report

C3. As mentioned earlier, your electricity bill has two parts. One is the cost of the electricity you use. The second is the cost of transmission, distribution and administration: this is the cost to get the electricity from the generating plant to your home. Which are you more concerned about?



% Both Equally – By Demographic Breakout

HH Income

$30k or under	56%
$30k-<$70k	56%
$70k-<$100k	53%
$100k+	55%

Age

18-34	54%
35-54	57%
55+	50%

Region

Northern AB	50%
Edmont. CMA	52%
Central AB	52%
Calgary CMA	58%
Southern AB	57%

Gender

Male	50%
Female	53%

Location

Rural	53%
Urban	55%

Own/Rent

Rent	54%
Homeowner	54%

Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

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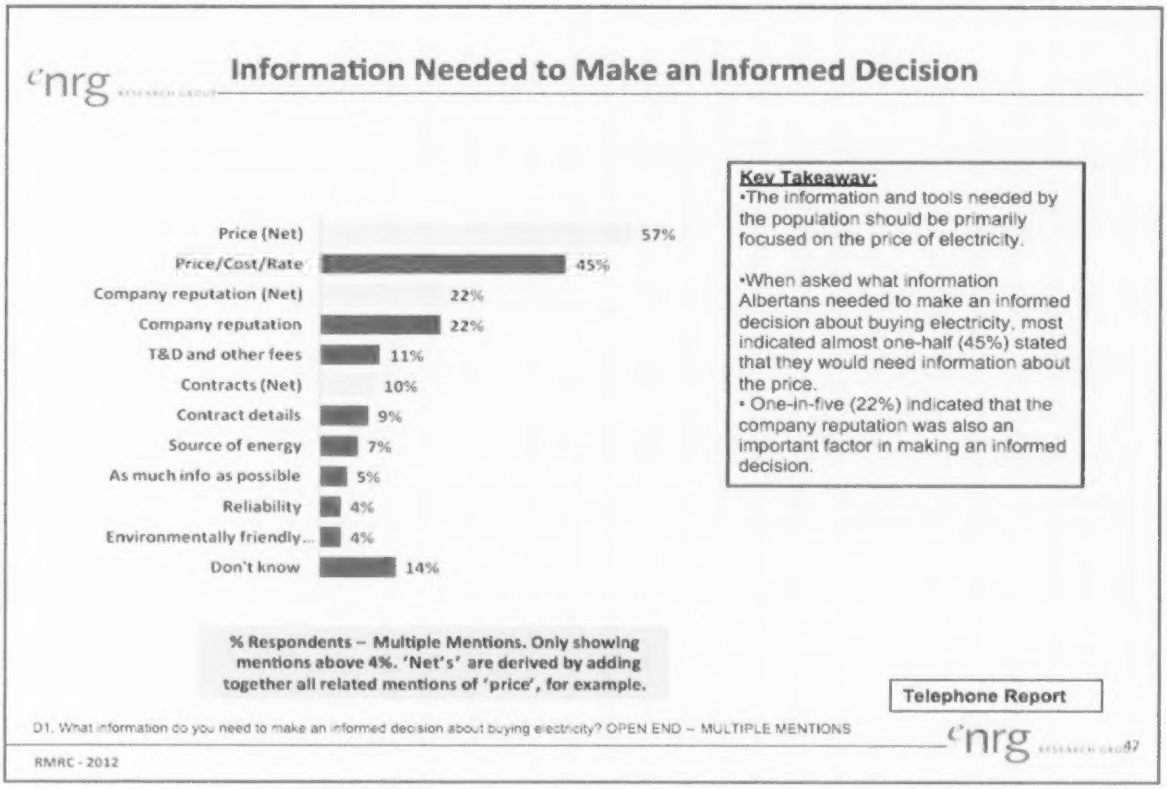
Knowledge and Awareness



Information Needed to Make an Informed Decision

Key Takeaway:

- The information and tools needed by the population should be primarily focused on the price of electricity.
- When asked what information Albertans needed to make an informed decision about buying electricity, most indicated almost one-half (45%) stated that they would need information about the price.
- One-in-five (22%) indicated that the company reputation was also an important factor in making an informed decision.

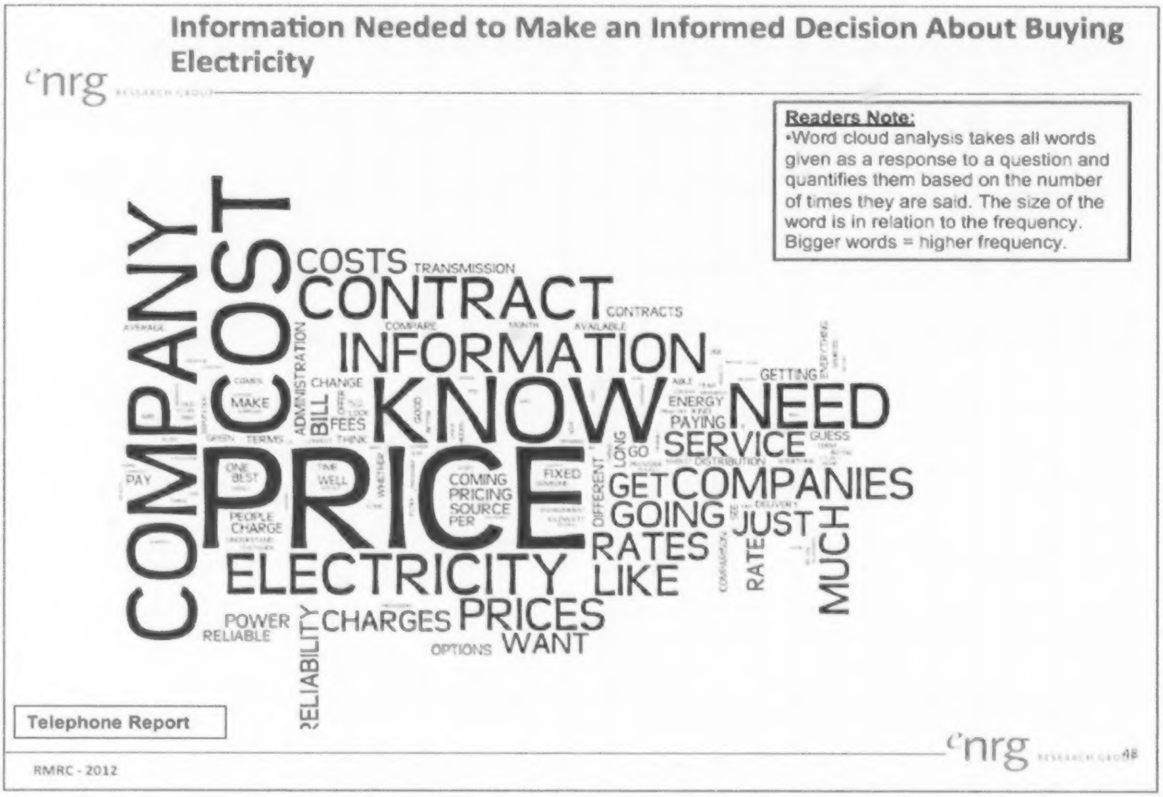
% Respondents – Multiple Mentions. Only showing mentions above 4%. 'Net's' are derived by adding together all related mentions of 'price', for example.

Telephone Report

D1. What information do you need to make an informed decision about buying electricity? OPEN END – MULTIPLE MENTIONS

RMRC - 2012

47



Information Needed to Make an Informed Decision About Buying Electricity

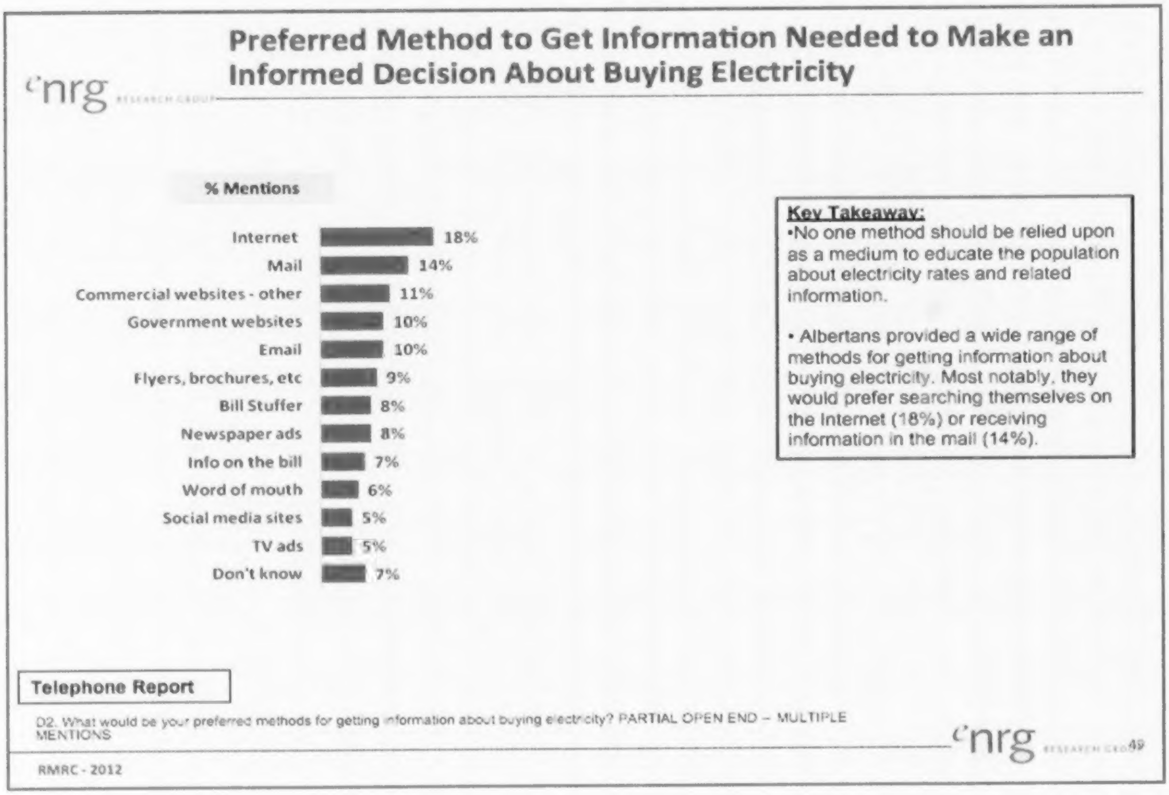
Readers Note:

- Word cloud analysis takes all words given as a response to a question and quantifies them based on the number of times they are said. The size of the word is in relation to the frequency. Bigger words = higher frequency.

Telephone Report

RMRC - 2012

48



Preferred Method to Get Information Needed to Make an Informed Decision About Buying Electricity

Key Takeaway:

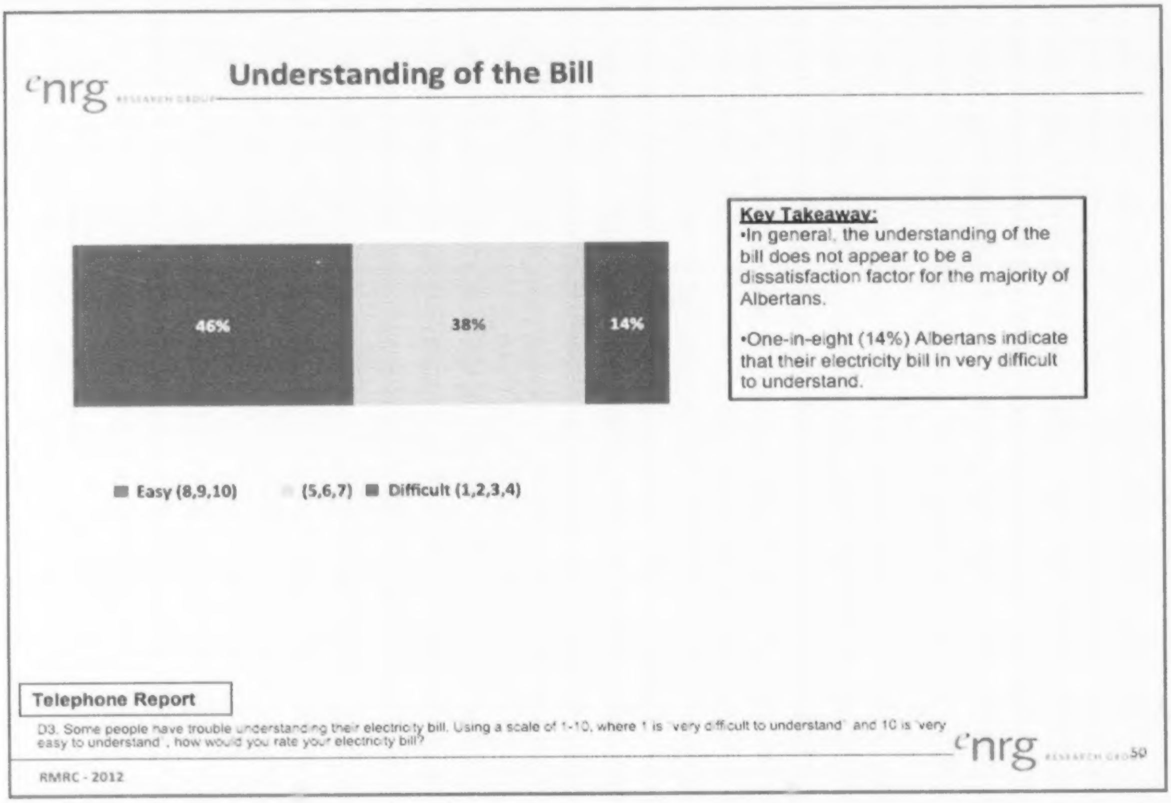
- No one method should be relied upon as a medium to educate the population about electricity rates and related information.
- Albertans provided a wide range of methods for getting information about buying electricity. Most notably, they would prefer searching themselves on the Internet (18%) or receiving information in the mail (14%).

Telephone Report

D2. What would be your preferred methods for getting information about buying electricity? PARTIAL OPEN END – MULTIPLE MENTIONS

RMRC - 2012

49



Understanding of the Bill

Key Takeaway:

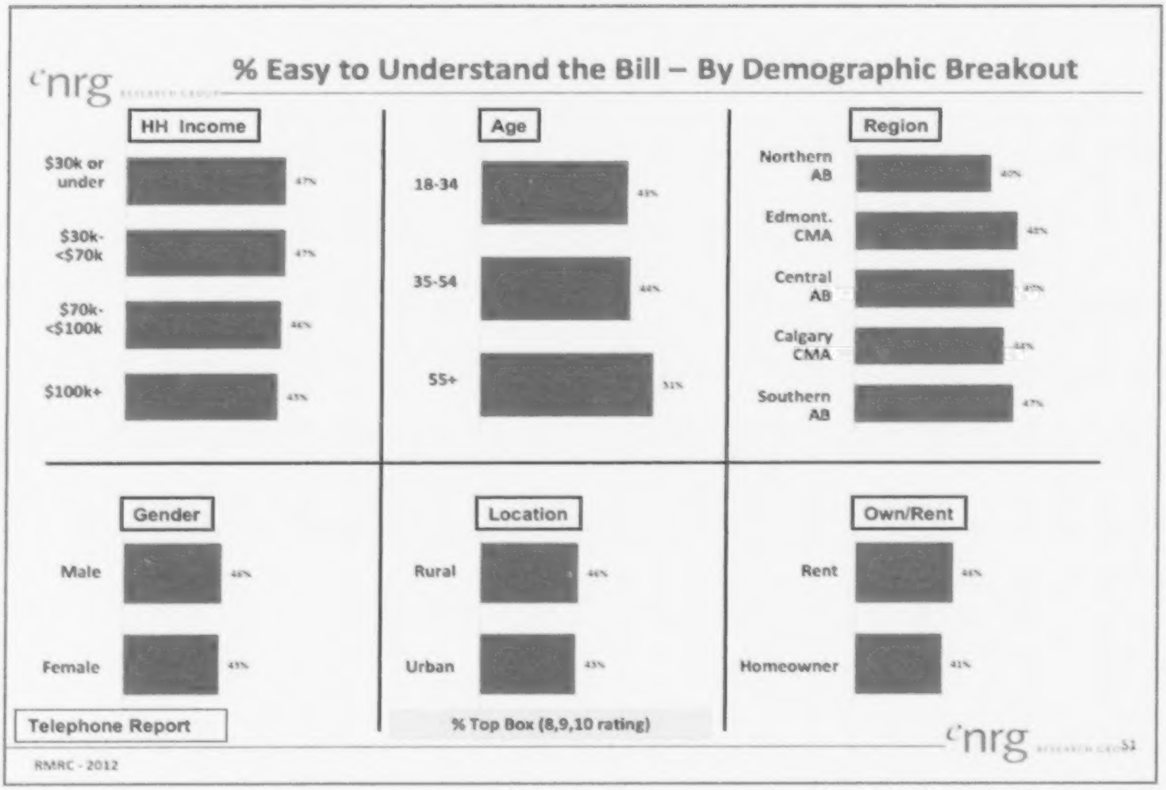
- In general, the understanding of the bill does not appear to be a dissatisfaction factor for the majority of Albertans.
- One-in-eight (14%) Albertans indicate that their electricity bill in very difficult to understand.

Telephone Report

D3. Some people have trouble understanding their electricity bill. Using a scale of 1-10, where 1 is "very difficult to understand" and 10 is "very easy to understand", how would you rate your electricity bill?

RMRC - 2012

50



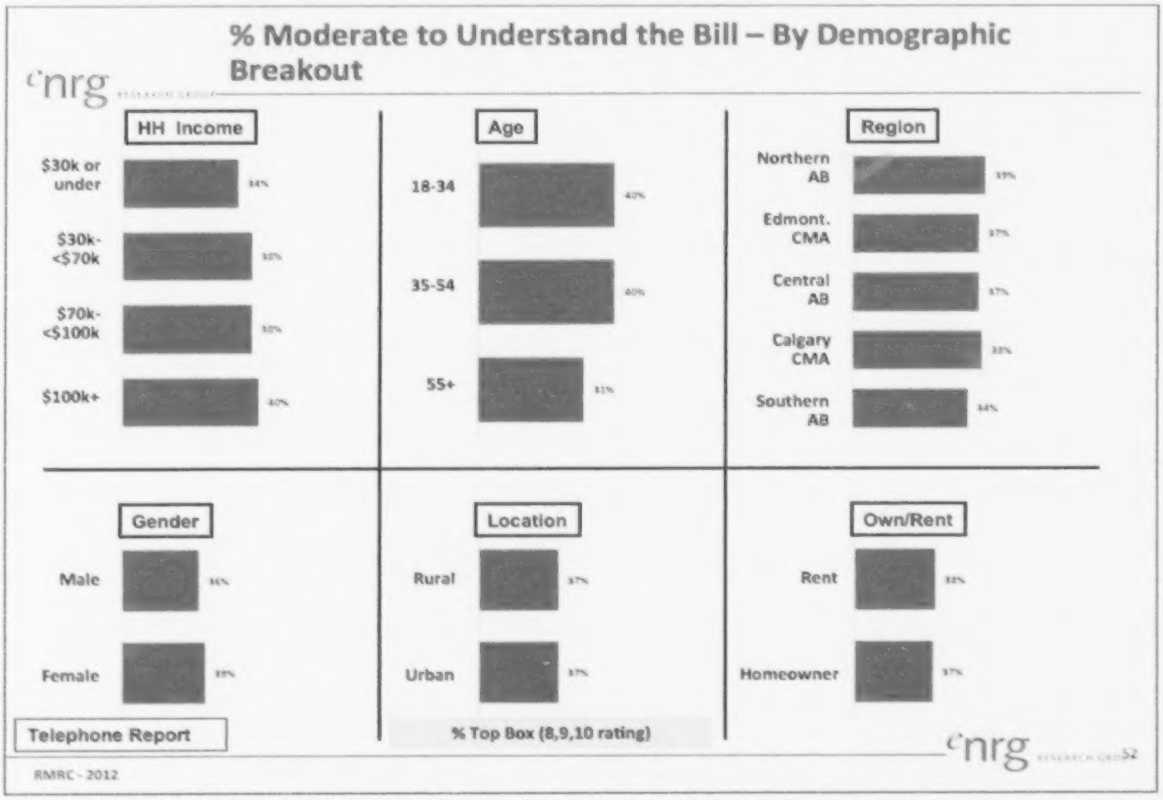
% Easy to Understand the Bill – By Demographic Breakout

Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

51



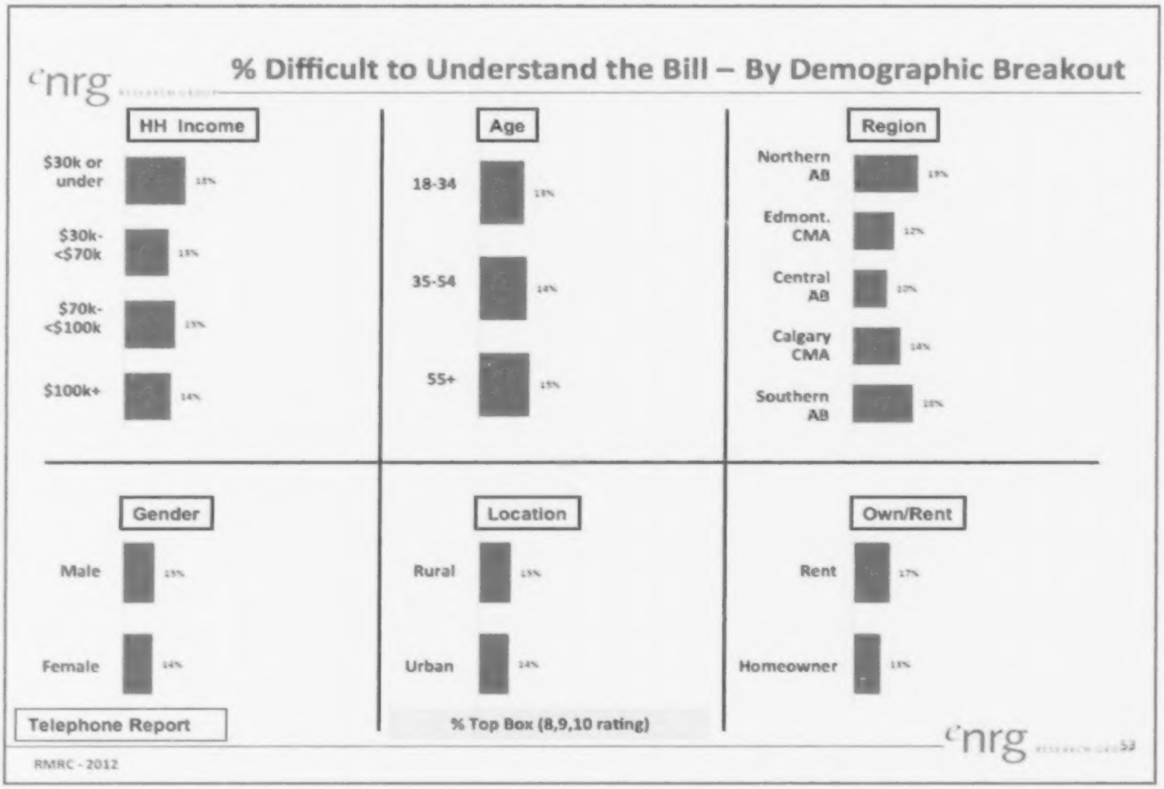
% Moderate to Understand the Bill – By Demographic Breakout

Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

52

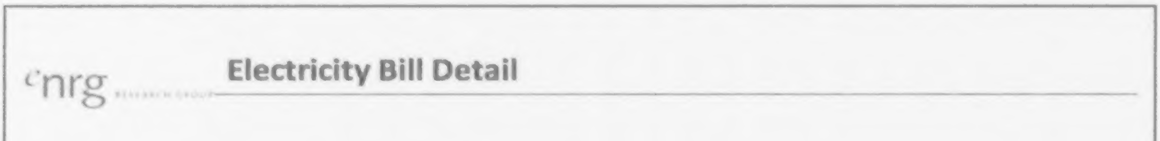


% Difficult to Understand the Bill – By Demographic Breakout

Telephone Report

RMRC - 2012

53



Electricity Bill Detail

Key Takeaway:

- The vast majority of Albertans want to see the details of their electricity bill on

•Few Albertans (5%) stated that they did not want any detail at all on their electricity bill.

- Southern Albertans (66%) were most likely to indicate that they would prefer "very detailed" costs on their bill.
- Those with household incomes of greater than $100,000 were significantly less likely to state that they would prefer very detailed costs (46%)

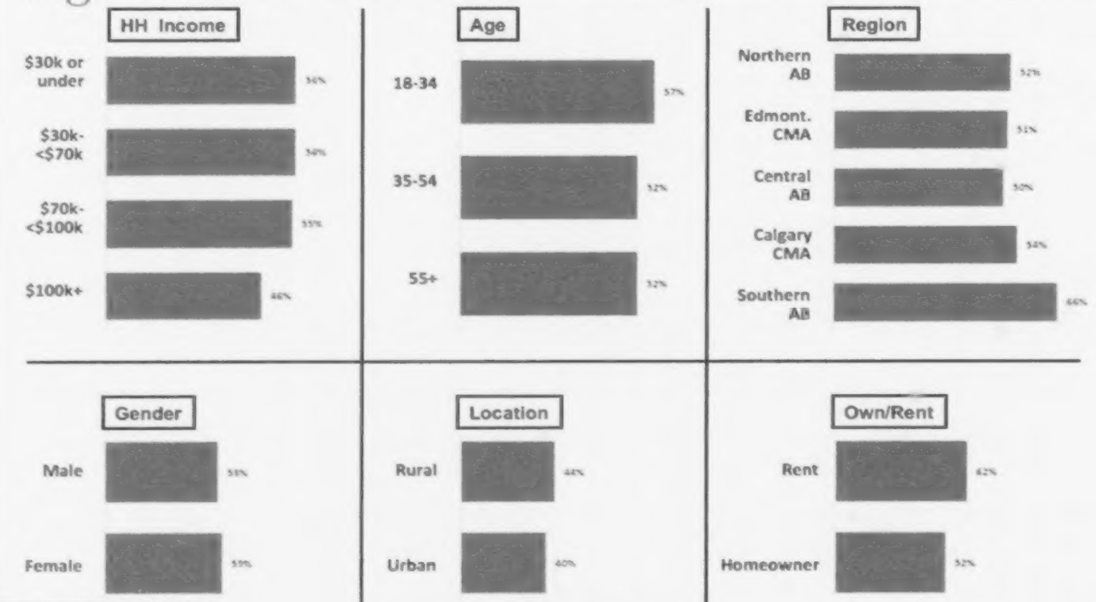
Telephone Report

D4. I want the costs on my electricity bill to be?

RMRC - 2012

54

% Very Detailed Bill – By Demographic Breakout



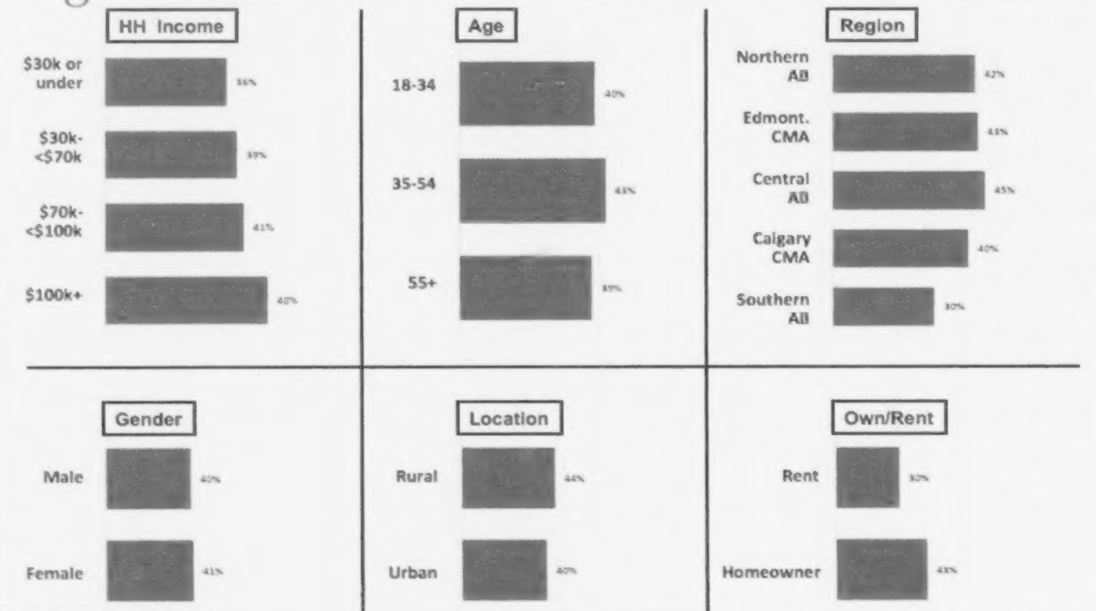
Telephone Report

% Top Box (8,9,10 rating)

55

RMRC - 2012

% Somewhat Detailed Bill – By Demographic Breakout



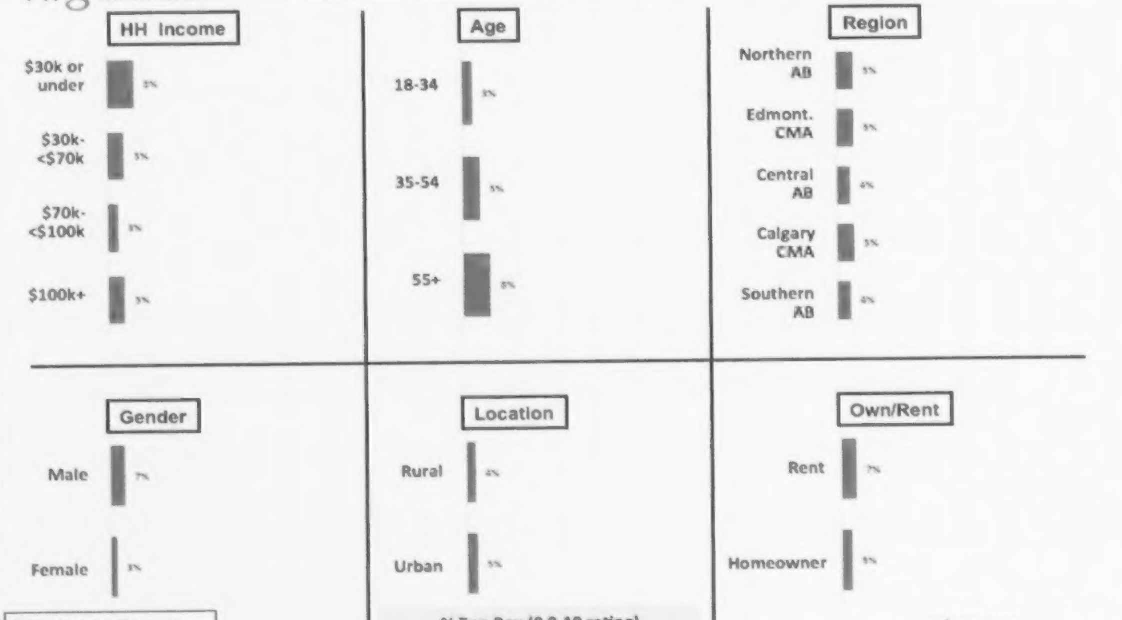
Telephone Report

% Top Box (8,9,10 rating)

56

RMRC - 2012

% Not at all Detailed Bill – By Demographic Breakout

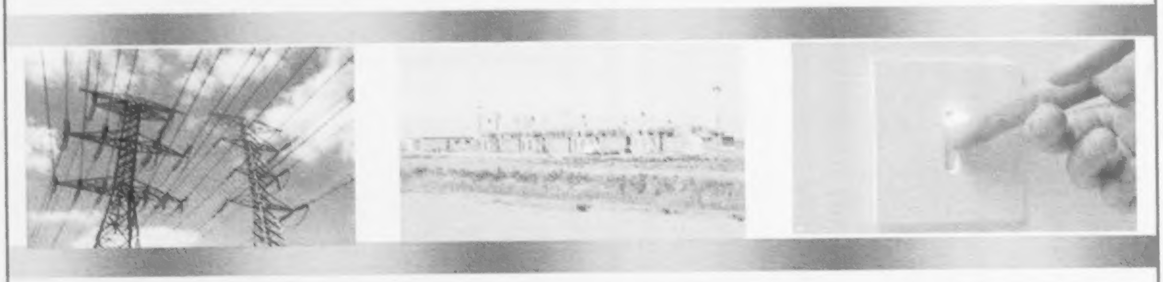


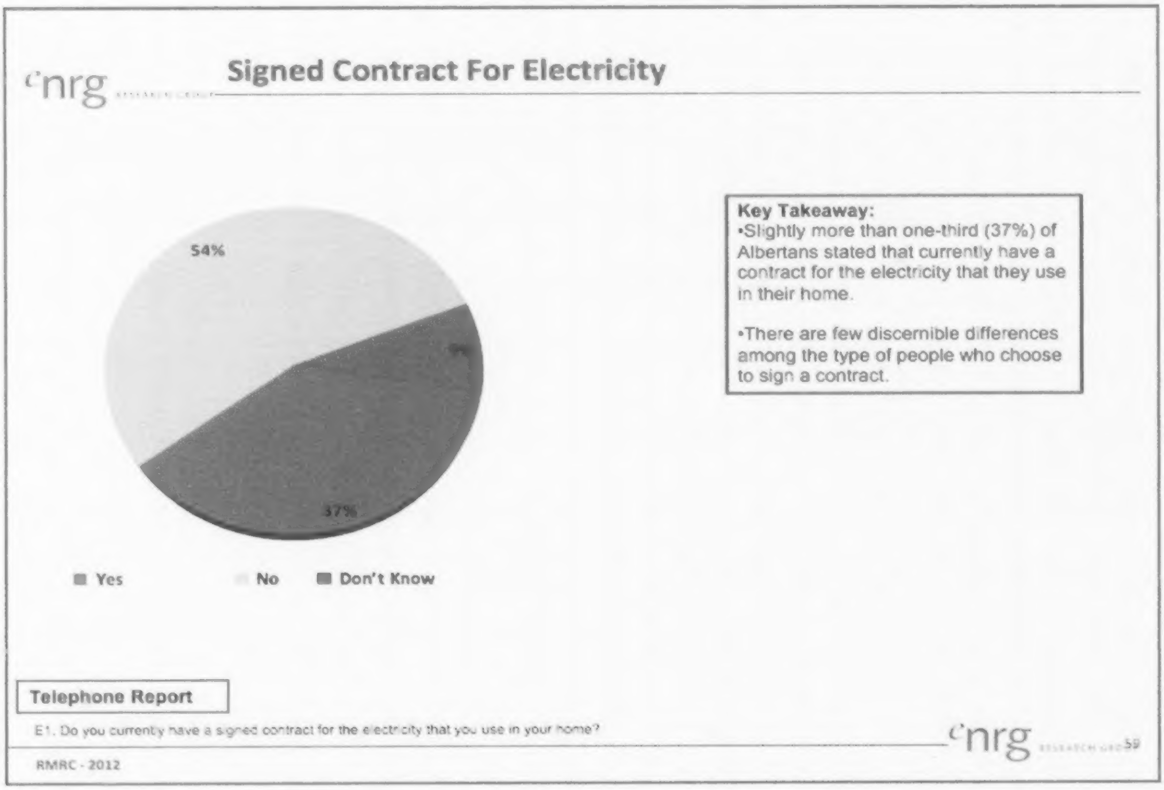
Telephone Report

% Top Box (8,9,10 rating)

RMRC - 2012

Contracts





Signed Contract For Electricity

Key Takeaway:

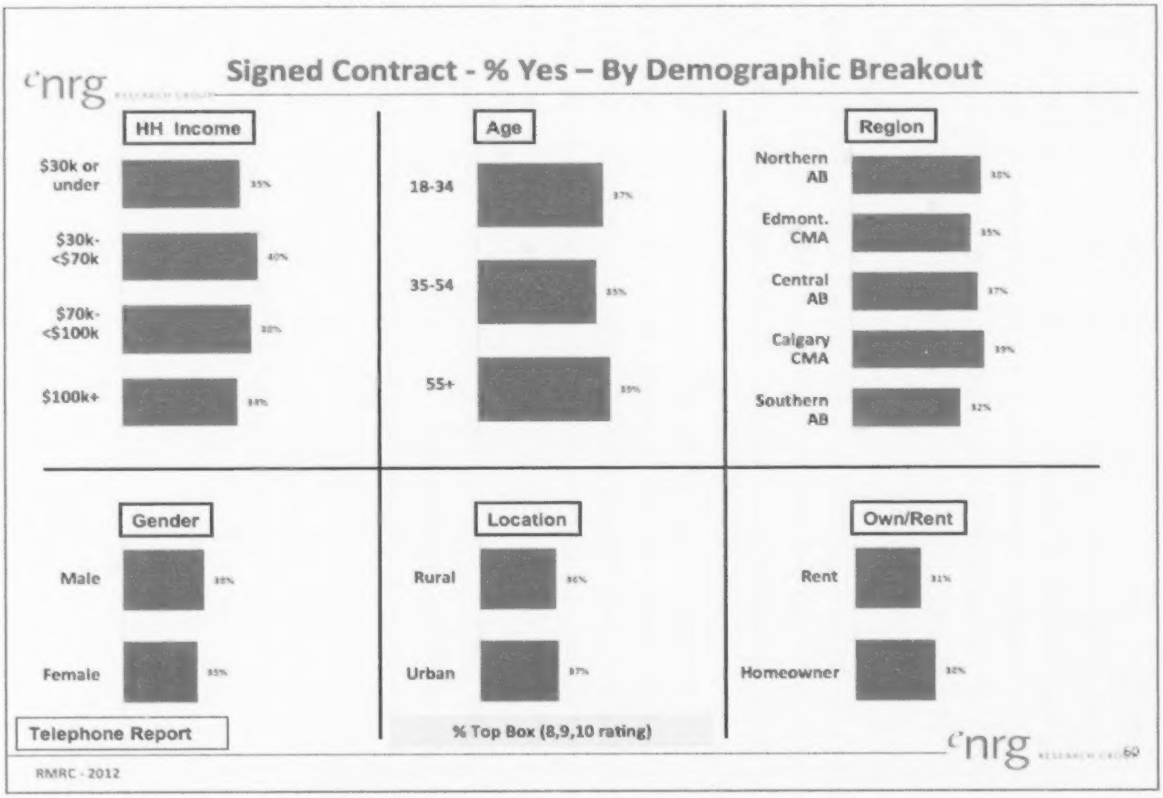
- Slightly more than one-third (37%) of Albertans stated that currently have a contract for the electricity that they use in their home.
- There are few discernible differences among the type of people who choose to sign a contract.

Telephone Report

E1. Do you currently have a signed contract for the electricity that you use in your home?

RMRC - 2012

59



Signed Contract - % Yes – By Demographic Breakout

% Top Box (8,9,10 rating)

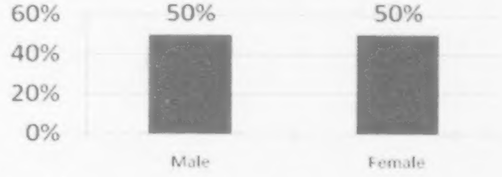
Telephone Report

RMRC - 2012

60

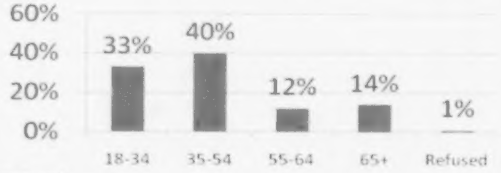
Interview Demographics

Interview Demographics



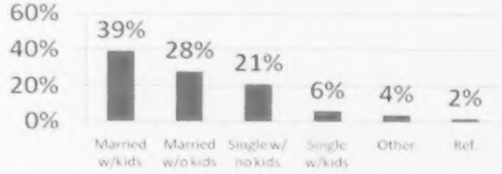
Gender

n=2000



Age

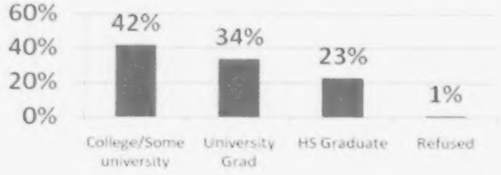
n=2000



Family Status

n=2000

Telephone Report

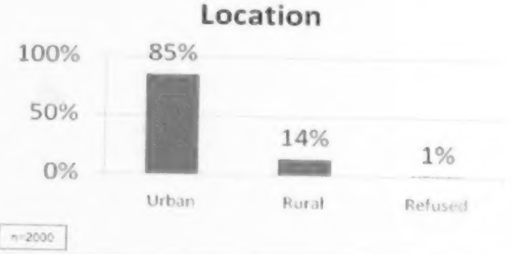


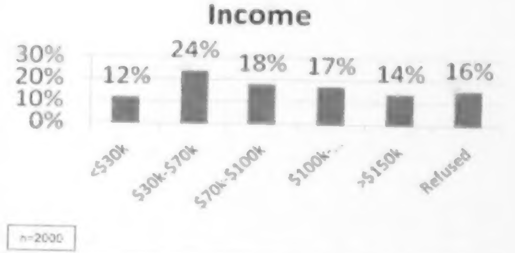
Education

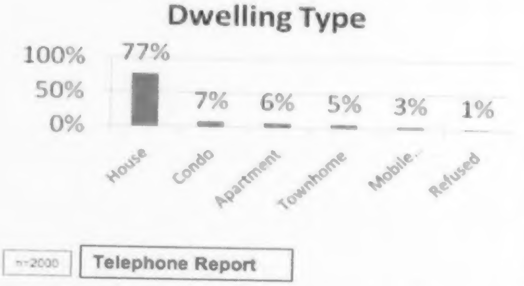
n=2000

RMRC - 2012

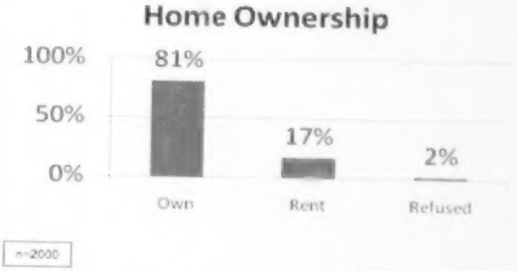
Interview Demographics



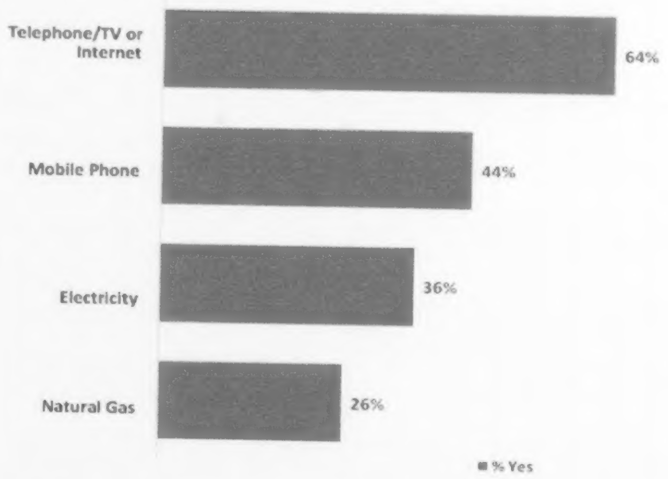




Telephone Report



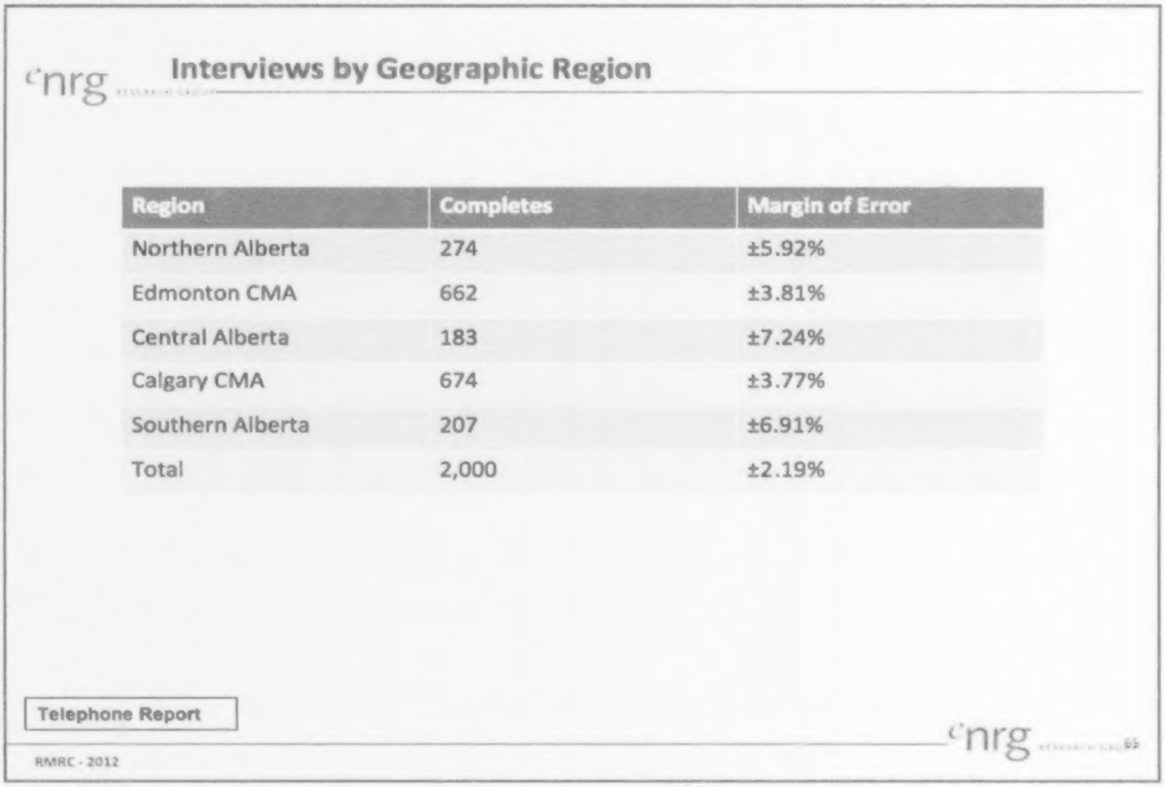
Switching of Consumer Services



Key Takeaway:
- Switching of various household services in not uncommon with almost two-thirds (64%) indicating that they had switched Telephone/TV or Internet at some point in their life.
- More essential services such as electricity and natural gas see significantly lower levels of switching.

Telephone Report

E6. Have you ever switched any of the following services for your home?



Interviews by Geographic Region

Region	Completes	Margin of Error
Northern Alberta	274	±5.92%
Edmonton CMA	662	±3.81%
Central Alberta	183	±7.24%
Calgary CMA	674	±3.77%
Southern Alberta	207	±6.91%
Total	2,000	±2.19%

Telephone Report

RMRC - 2012

65

Appendix

6

What We Heard from Stakeholders

Citations in the following section refer to written submissions and presentations to the Retail Market Review Committee. These materials are available on the committee website, www.rmrc.ca. Stakeholder responses to questions the committee posed during their presentations are also posted on the website.

Twenty-one organizations forwarded written submissions and made presentations to the Retail Market Review Committee at sessions held in Edmonton (May 28 to June 1) and Calgary (June 4 to June 8). An additional five organizations made written submissions in response to the committee's questions, but did not present.

This chapter summarizes what the committee heard from stakeholders. Stakeholder responses are grouped within six topic areas:

- having a default rate
- phasing out the current default rate
- replacing the current default rate
- protecting vulnerable Albertans
- consumer education and awareness
- the retail market and regulated non-energy charges

Each section opens with the questions the committee posed, including cross-references to the relevant parts of the Ministerial Order that guided the committee's work. To the extent possible, stakeholder responses are grouped according to their stated positions on various issues. Individual groups are only identified when they are quoted directly or when they posed a position not suggested by any other group.

Several stakeholder groups acknowledged they were not experts in the electricity industry, and not all stakeholders answered every question.

Stakeholders acknowledged the complexity of the industry and the issues. Their responses reflect a diversity of opinions about what should be done.

See Appendix 1 for the complete text of Ministerial Order 32/2012 and for a list of stakeholder organizations and presenters.

Except where noted, direct quotations are from stakeholders' written submissions to the Retail Market Review Committee. See the report bibliography for details.

CORPORATE NAMES AND NOTES

In this chapter, stakeholders who represented more than one organization are referred to by an abbreviated corporate name, as follows:

- **Atco includes Atco Energy & Utilities, Atco Electric and Atco Power.[1]**
- **Direct Energy is Direct Energy Management Limited, which submitted on behalf of Direct Energy Regulated Services and Direct Energy Partnership.**
- **Epcor includes Epcor Energy Alberta Inc. and Epcor Distribution & Transmission Inc.**
- **Just Energy includes Hudson Energy Canada Corporation.**
- **Utility Network & Partners (abbreviated to UtilityNet on the following pages) represents Adagio Energy, Bow Valley Power, Brighter Futures Energy, E NRG, Milner Power, Mountain View Power, Spark Power, Spot Power and Vector Energy.**

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[1] Atco Electric provided a written submission in response to the Retail Market Review Committee's questions to stakeholders. Representatives of Atco Electric, Atco Energy & Utilities and Atco Power made a presentation to the committee in June 2012.

Opinions about Having a Default Rate

What is the purpose of a default rate?

Question 1: Clearly state what the purpose of a default rate (currently called the Regulated Rate Option, RRO) should be in Alberta's retail electricity market? (Ministerial Order 13a)

Stakeholders offered a variety of opinions on the purpose of a default rate, and many groups believed that a default rate served more than one purpose.

Eighteen stakeholder groups suggested that one purpose of a default rate was to provide an option for consumers who do not wish to sign retail contracts.

The Alberta Federation of Rural Electrification Associations (AFREA) and the West Wetaskiwin Rural Electrification Association believed that Alberta's rural market is too small to guarantee the participation of competitive retailers. AFREA, Atco, Epcor, the City of Calgary, the Utilities Consumer Advocate and the Industrial Power Consumers Association of Alberta suggested that a default rate provides a benchmark for retail price setting. It provides a baseline against which consumers can gauge retailers' products. Epcor noted that a default rate also provides a service-related benchmark: it ensures that retail service quality and the terms and conditions of service meet appropriate standards. In addition, it provides an effective way of ensuring government policies and procedures are consistently applied in all circumstances and for all types of customers. For example, the application of "winter rules"[1] and the provision of services to vulnerable customers would be difficult to implement through unregulated retailers.

> "The RRO is a customer choice option...the first retail choice...[for most] Albertans."
>
> —City of Calgary submission to the Retail Market Review Committee

> "The purpose of a default rate is to provide 'non-shopping customers' the ability to purchase electricity on a regulated basis, without signing a competitive contract."
>
> —Atco submission to the Retail Market Review Committee

The Consumers' Coalition of Alberta suggested that the purpose of a default rate was to provide, a stable, no frills, low-cost option. The City of Lethbridge proposed that the purpose of a default rate should be to ensure consumers were not worse off as the result of a deregulated retail market. Other groups believed that a default rate was a "last resort" for high-risk customers, including people with bad credit who will not be served by competitive retail suppliers. Epcor noted that "last resort" service was also needed for sites where there is no retailer of record, no customer of record[2] or where an unregulated retailer is unable to meet its obligations to customers. A default rate ensures that all consumers have access to electricity services, including vulnerable customers who cannot access retail contracts and customers whose selected retailer has gone out of business.

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[1] Under Section 2(2) of the Distribution Tariff Regulation, customers cannot be disconnected for non-payment between October 15 and April 15 or at any other time when a below-zero temperature is forecast in the twenty-four hour period immediately before the proposed disconnection.

[2] This situation can occur when a customer leaves the site without notification or when there are gaps between customers of record at a site. In this situation, distribution system owners (who are responsible for providing the default rate) can address issues that competitive retailers could not.

> The default rate "is a government-designed product existing as an alternative to products offered by competitive retailer…{it} does not require consumers to engage in the market and exercise choice. It is simply provided to them.
>
> —Independent Power Producers Society of Alberta submission to the Retail Market Review Committee

Six groups[3] noted that the purpose of the current default rate (the Regulated Rate Option, or RRO) was transitional—to ensure continuity of service as Alberta developed a competitive retail electricity market and consumers educated themselves about their options.

> "The default rate serves as a transition mechanism to give consumers time to willingly switch to a competitive retailer and it affords them the protection they need in the early stages of competitive retail market development."
>
> —Utilities Consumer Advocate submission to the Retail Market Review Committee

UtilityNet noted that consumers have had a 12-year transition as retailers developed procedures and the market matured. Now it was time to aggressively promote the benefits of deregulation.

TransAlta Corporation pointed out that the Regulated Rate Option was designed to provide customers with "appropriate protection" during the transition period. In TransAlta's view, protection did not mean "a regulated rate in which consumers received the lowest price, but rather, "time for consumers to familiarize themselves with a competitive retail market"—which the current RRO provides. Capital Power Corporation agreed a default rate must not offer the lowest cost or most stable price or it would compete with retail products. Atco suggested a default rate should stimulate retail market development and educate consumers about their options, but argued that it should also provide a degree of price stability since electricity is an "essential service."

Enmax Corporation observed that the purpose of the Regulated Rate Option has changed over the years. When the RRO was established, its purpose was to provide customers with a transitional rate while they moved "from the traditional regulatory world in which rates reflect the average cost of the supply…to a new world in which the rates would be those that result from a competitively restructured market." Today, the primary purpose of the RRO is to provide electricity to consumers who choose not to or are unable to access electricity from a competitive retailer.

Epcor noted that although the Regulated Rate Option was introduced to facilitate an orderly transition to retail competition, it has since become a "necessary and desirable component of the Alberta electricity market" and should now be "a permanent alternative for small consumption consumers."

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[3] Direct Energy, UtilityNet, Atco, TransAlta, Enmax and the Utilities Consumer Advocate.

THE CITY OF LETHBRIDGE: A MUNICIPAL CASE STUDY[1]

Since 1908, the City of Lethbridge has owned and operated a municipal electric utility with the objective of providing a public service for the public good. Before the 1970s, when its power plant was sold, the city's electric utility department focused on generating and distributing electricity. Today the department is responsible for transmission, distribution, operations and customer service. It provides additional utilities services through contracts with Cognera Corporation (for billing), Valeo Power Corporation (for load settlement) and Midas Metering Services (for metering).

Under the *Electric Utilities Act*, the City of Lethbridge is responsible for providing the Regulated Rate Option (RRO) and default supply within its distribution service area.

In its submission to the Retail Market Review Committee, the city expressed its view that electricity supply is an essential service and that "the purpose of a default rate should be to ensure that Eligible Customers are not made unreasonably worse off by a deregulated retail market. Lethbridge considers that the current RRO framework has strayed from this ideal because it appears necessary to indefinitely and artificially increase price or constrain service of the default rate in order to sustain or increase the current level of retail market activity. If after a decade of experience the competitive retail market share can only be maintained or increased because the default rate is made artificially unattractive to customers, then the current policy is not in the public interest."

In 2006, when month-ahead pricing was introduced for the RRO and electricity rates neared 13 cents per kilowatt hour, Mayor Robert Tarlek recommended that the citizens of Lethbridge give serious consideration to fixed-price competitive contracts because the RRO offered by the city's electric utility could not protect them from price volatility. Within a few months of the mayor's announcement, 60% of Lethbridge residents had switched to a retail electricity provider. The proportion of residents with a retail provider has remained stable since this time, even through periods of high electricity prices.[2] This suggests that price is only one component of a consumer's decision to switch. In the case of Lethbridge, the utility department's not-for-profit orientation, in-person customer service and one-stop utilities billing approach are likely to be factors.

The City of Lethbridge noted that, given provincial education campaigns, media coverage and sales efforts by retailers, it would be difficult for Albertans not to know that retail customer choice was an option. The city's view is that a significant portion of the population will continue to consider themselves better off with a default rate despite the fact that the current RRO Regulation prevents default providers from charging a long-term stable price for power.

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[1] The following information was drawn from the City of Lethbridge's written submission to the Retail Market Review Committee and its June 5, 2012, oral presentation to the committee, and from the city's *Electric Utility Services Business Plan 2012-2014* and various City Council documents.

[2] About 100 Lethbridge households closely monitor electricity prices and switch from the regulated rate to competitive contracts several times a year.

Is a default rate still needed, and why?

Question 2: Within the context of a competitive electricity retail market in Alberta, is there a continuing need to have a default rate? Please detail and substantiate why or why not. (Ministerial Order 13b)

Stakeholders were divided on the need to have a default rate.

Differences of opinion existed within stakeholder organizations as well as across groups. For example, some members of the Independent Power Producers Society of Alberta suggested the Regulated Rate Option should be phased out. Others thought it should be retained for consumers who cannot or choose not to sign competitive retail contracts.

Four groups said there is no continuing need for a default rate: Direct Energy, Enmax, UtilityNet and some members of the Independent Power Producers Society of Alberta.

The case for a default rate

Stakeholders who believe a default rate is required offered the following reasons:

- A default rate can protect consumers if their retail supplier goes bankrupt and can no longer provide electricity services.
- A default rate can serve customers who cannot provide security deposits or whose poor credit history makes it difficult for them to access retail contracts. It can ensure that all customers have access to a market-based electricity rate.
- A default rate can serve customers who are in transition and therefore unsure about how long they will need electricity service at a particular site.
- A default rate can function as a last resort for electricity services (including electricity supply, customer care, billing and collections) for sites where there is no customer of record or where there is electricity infrastructure that must be removed.
- A default rate guarantees the availability of electricity for customers who are unwilling or unable to sign a competitive contract for electricity.
- A default rate provides consumers, including small businesses, with another option for managing electricity costs.
- A default rate can serve customers in areas where competitive options are limited.
- A default rate (if appropriately designed) can provide a degree of price stability for an essential service in a market where supply pressures cause rapid and significant price fluctuations.

Atco noted that electricity prices change more rapidly and dramatically than prices of consumer products such as mortgages, where rate changes are gradual and narrow. The conditions that contribute to price volatility are expected to persist in the coming years, resulting in volatility levels that consumers on the Regulated Rate Option may find unacceptable.

> "Atco submits that, despite the careful and deliberate phasing in of the new RRO from 2006 to 2012, it is time for the government to take action that restores a measure of price stability for small consumers."
>
> —Atco submission to the Retail Market Review Committee

- A default rate can facilitate the transition to a fully competitive market.
- A default rate can contribute to open, transparent trading and facilitate the development of liquidity in the forward market for electricity products.

Several stakeholders who support a default rate noted that such a rate provides an option for consumers who do not want to sign retail contracts. AltaGas observed that consumers might not realize why it is necessary to commit to a competitively contracted supply of electricity, but not necessary for water, natural gas or other services.

FortisAlberta cautioned that unless the government was willing to force Albertans to choose a competitive retailer or to allocate consumers to retailers, a default rate was needed—at least in the short term. AltaLink noted that any forced transition would likely result in significant public backlash. TransAlta also held this view, and cautioned that the current Regulated Rate Option could only be phased out if the following conditions had been met:

- a comprehensive review showed that the retail market was "workably competitive"
- safeguards were in place to prevent the abuse of market power by dominant retailers
- a mechanism was in place to allocate RRO customers to competitive retailers
- public education and consumer awareness about competitive options had reached an acceptable level
- provider of last resort service was available as a backstop for consumers who were unable to choose a retailer

The Utilities Consumer Advocate (and other stakeholders) noted that the original purpose of the default rate was to provide a transition mechanism that protected consumers until the market was competitive. While the UCA believes the market is indeed competitive, it noted that the current Regulated Rate Option plays an important role in sustaining competition because retailers design their products to match or beat the RRO. If the RRO was phased out, competitiveness could only be sustained if a significant number of new retailers entered the market.

The UCA felt the risk of insufficient entry poses a major threat to consumers, and that eliminating the RRO at this time could make consumers worse off than they are. Two other considerations support the UCA's belief that phasing out the RRO could be bad for consumers. First, having a default rate for electricity allows consumers to do nothing, if that is their choice, even if a retail contract might serve their best interest. Second, because the RRO may be subsidized and because retailers must incur marketing and customer acquisition costs that regulated providers do not have, the RRO may result in a lower rate. The UCA recommends continuing the RRO until significant new market entry is not a factor.

The case against a default rate

Three stakeholder groups stated there is no need for a default rate in a competitive retail market: Enmax Corporation, Direct Energy Marketing Limited and UtilityNet.

Enmax and Direct Energy both commented that the underlying question is, "Is the market competitive?" They provided these to support their position:

- Switching statistics suggest a significant degree of consumer acceptance and confidence that the retail market can meet consumer needs.
- The retail marketplace includes a number of financially strong competitive retailers.

Stakeholders who believe there is no need for default rate noted that a provider of last resort and appropriate social programs are required nonetheless.

> "In a mature and robust competitive retail market, and in a society in which there is a well-functioning social safety network, there is no need for a default rate."
>
> —Enmax Corporation submission to the Retail Market Review Committee

> "A default rate is not required in a robust competitive retail market."
>
> —Direct Energy Marketing Limited submission to the Retail Market Review Committee

Table 16: A summary of stakeholders' views on the need for a default rate for electricity

Organization	default rate needed?[4]	Why or why not?
Alberta Association of Municipal Districts and Counties	Yes	Consumers find it difficult to understand the electricity system and perceive a regulated default rate as a safe choice.
Alberta Federation of Rural Electrification Associations	Yes	Few competitive options are available for rural customers. Since retailers are not mandated to serve all customers, the absence of a default rate would force many rural customers into competitive contracts.
Alberta Urban Municipalities Association	Yes	Retail competition hasn't evolved as expected. Consumers have not seen the promised benefits of lower prices and unique products, and remain unwilling to switch to competitive contracts. A stable default rate option is needed for consumers who cannot qualify for competitive contracts and for those who choose not to switch.
AltaGas Ltd.	Yes	A default rate will always be needed for consumers who are unable or unwilling to sign retail contracts.
AltaLink	Yes (Modify the RRO to allow longer-term hedging and a longer procurement window.)	A large number of Albertans have not switched to competitive retail contracts, and a forced transition will face a significant backlash.
Atco (submission from Atco Electric; presentation by Atco Energy & Utilities, Atco Electric and Atco Power)	Yes	A large number of Albertans have not switched to competitive retail contracts. **Provisos and Comments** Because electricity is an essential service, consumers need price stability. Price stability could be achieved through the design of the default rate. It could also be achieved by eliminating the RRO or designing a default rate that was less attractive, which would encourage people to sign competitive, fixed-price contracts. The choice of approaches must reflect clear government policy objectives. The current situation creates uncertainty for both the retail sector and the wholesale electricity market.
Canadian Federation of Independent Business	Yes	A default rate provides small businesses and other consumers with an option for managing their electricity costs.

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[4] When stakeholders stated a preference for a default rate design, this is noted. (Many stakeholders offered a variety of suggestions for rate design in their responses to Questions 7, 8 and 9; most did not identify a preferred option.)

The intention of stakeholders who recommended RRO modifications to allow longer-term hedging was to reduce price fluctuations for consumers.

Table 16: A summary of stakeholders' views on the need for a default rate for electricity

Organization	default rate needed?[4]	Why or why not?
Capital Power Corporation	Yes (Improve the current RRO by standardizing energy price-setting plans and providing opportunities for all interested wholesale market participants to compete.)	A default rate will always be needed to protect consumers in circumstances (such as retailer bankruptcy) where they cannot receive electricity from competitive retailers to ensure a supply of electricity for customers who are unable to access retail contracts because of their poor credit histories or inability to provide security deposits Alberta's low switching rate indicates that people may not be able or inclined to sign competitive contracts. Phasing out the RRO could be perceived as forcing consumers to switch. **Provisos and Comments** A default rate must not be designed or intended to be the lowest cost or most stable price option. This would hamper the ability of competitive retailers to attract customers.
Central Alberta Rural Electrification Association (joint submission with Lakeland, North Parkland Power and South Alta REAs)	Yes	Many consumers prefer the RRO. The RRO also serves as a safety net for customers with poor payment history or bad credit.
City of Calgary	Yes (Modify the RRO to allow long-term hedges.)	The RRO is a consumer choice; two thirds of consumers prefer the RRO. The RRO provides an Alberta Utilities Commission-approved benchmark against which retail offerings can be evaluated. The RRO gives retailers an incentive to improve their products. The RRO serves customers who have bad credit and therefore do not qualify for retail contracts. The existence of a competitive market has not been confirmed. In Alberta's small electricity market, there is a danger that a few parties will exercise market power.
City of Lethbridge	Yes	A significant portion of Albertans will always consider themselves better off with a default rate. **Provisos and Comments** The default rate should be regulated, cost-based, and unsubsidized, include a fair return and provide consumers with managed, stable energy prices. Such a design will not constrain competition as long as the retail market is capable of offering prices, services or terms that are superior to the default rate.
City of Red Deer	Yes (Keep the current RRO.)	Most Albertans have chosen not to switch to competitive retailers.

Table 16: A summary of stakeholders' views on the need for a default rate for electricity

Organization	default rate needed?[4]	Why or why not?
Constellation Energy Commodities Group	Yes (Modify the RRO to allow long-term hedges.)	Switching rates reflects consumer preferences for a default rate, and unwillingness to exercise choice. **Provisos and Comments** Procurement should be structured in a manner that creates as much competition as possible. (Constellation suggests the use of auctions and bidding mechanisms that are open to all qualified suppliers.)
Consumers' Coalition of Alberta	Yes	A default rate is "necessary as the energy part of the whole package of basic electric service."
Direct Energy Marketing Limited (on behalf of Direct Energy Regulated Services and Direct Energy Partnership)	No (Not if there is a robust, competitive retail market.)	Switching rates are nearly high enough that the RRO could be eliminated and customers assigned to competitive retailers. **Provisos and Comments** A provider of last resort will always be needed.
Enmax Corporation	No (Not if there is a robust, competitive retail market and an adequate social safety network.)	Although the market is competitive and robust, the existence of the RRO will hinder further development. "Until the government directly and unequivocally confirms its full support for a complete and timely transition to full reliance on competitive retail supply, potential retail suppliers are likely to perceive significant investments geared toward participation as a retail supplier as risky." **Provisos and Comments** Additional regulatory changes are needed to remove barriers that prevent consumers from accessing retail contracts. Consumers must be comfortable and accepting of a retail market, but customer apathy should not prevent the transition to a fully competitive marketplace. Targeted consumer awareness and education programs are needed. Social programs must be in place to ensure that all Albertans have access to a reliable supply of electricity on reasonable terms.

Table 16: A summary of stakeholders' views on the need for a default rate for electricity

Organization	default rate needed?[4]	Why or why not?
Epcor Energy Alberta Inc. and Epcor Distribution & Transmission Inc.	Yes (Modify the RRO to include a blend of monthly products and longer-term hedges.)	Consumers have clearly expressed their desire for a regulated default rate through their choice to remain on or return to the RRO. A regulated default rate provides a regulated retail tariff for consumers whose poor credit history or inability to pay prevents them from buying electricity through a competitive retailer functions as a "last resort" for electricity services ensures continuity of service and efficient, consistent implementation of government policies and procedures provides a retail benchmark which ensures that electricity prices, terms and conditions of service, and retail service quality always meet appropriate standards
FortisAlberta Inc.	Yes (At least in the short term.)	Many Albertans prefer a regulated rate. Unless the government is willing to force choice or allocated customers to competitive retailers, a default rate is needed.
Independent Power Producers Society of Alberta	IPPSA members were divided on this question.	**Provisos and Comments** IPPSA members agreed that, if a default rate continued, it should not be designed as a low price, low volatility product for customers. Such market engineering invariably reduces investor confidence and harms consumers in the long run.
Industrial Power Consumers Association of Alberta	Yes	A default rate allows for the recovery of energy costs from consumers who do not buy directly from the wholesale market or who choose not to buy from retail suppliers. No amount of time, advertising or public education is likely to convince the majority of small consumption consumers to opt for retail offerings. **Provisos and Comments** The best RRO design minimizes political risk and negative consequences for the wholesale market. Phasing out the RRO and assigning default supply consumers to retailers may not be realistic, and could not happen without political consequences.
Just Energy Alberta (also representing Hudson Energy Canada Corporation)	Yes	A default rate is currently needed as a last resort rate to serve consumers whose lack of service history, poor credit or inability to pay a security deposit prevents them from buying electricity through a retailer.

Table 16: A summary of stakeholders' views on the need for a default rate for electricity

Organization	default rate needed?[4]	Why or why not?
Spark Power (Alberta Renewable Energy Cooperative)	Yes	The RRO provides consumers with a choice that allows them to avoid fixed contracts and exit fees, and benefit from the cost savings of a fluctuating market. A default rate will always be needed unless contract exit fees and penalties are prohibited. **Provisos and Comments** The current RRO design imposes price volatility in an effort "to stampede customers into long-term contracts." This is not acceptable. A default rate should be designed as a stable rate option.
TransAlta Corporation	Yes (Make minor modifications to the RRO.)	Consumer awareness of retail options is low. There is no mechanism in place for allocating RRO customers to retailers. The competitiveness of the retail market is untested. There is no provider of last resort for consumers who are unable to choose a retailer. With 70% of residential consumers served by the RRO, changes that did not address the issues listed above could create political backlash. **Provisos and Comments** The current RRO design minimizes competition with retail offers while providing a degree of volatility to encourage switching. This is an appropriate balance, but a standardized procurement process (through the NGX) and elimination of self-supply would improve the current design.
Utilities Consumer Advocate	Yes	While the market is competitive, its continuing success depends on the entry of new retailers. Eliminating the RRO before the market has reached this stage may make consumers worse off. **Provisos and Comments** If a fully competitive retail market is the goal, then any default rate must be temporary and designed to provide consumers with a "plain vanilla" product at a price that reflects electricity market prices as closely as possible.

Table 16: A summary of stakeholders' views on the need for a default rate for electricity

Organization	default rate needed?[4]	Why or why not?
Utility Network & Partners Inc. (representing Adagio Energy, Bow Valley Power, Brighter Futures Energy, E NRG, Milner Power, Mountain View Power, Spark Power, Spot Power and Vector Energy)	No	The default rate was intended to serve as a transitional product, and has done so for a dozen years. Now it is time "to aggressively promote and support the advantages of deregulation." **Provisos and Comments** Phase out the RRO and implement appropriate social programs.
West Wetaskiwin Rural Electrification Association	Yes	Retailers may not be interested in serving small consumption customers in rural areas.

Is it appropriate to have a default rate that competes with competitive retail offers?

Question 10d) How would the alternative design for a default rate affect the competitive retail market in terms of...ii) the appropriateness of having a default rate compete with the competitive retail market? (Ministerial Order 13e-ii-c)

Most stakeholder groups did not offer a direct answer to the question of whether it was appropriate for a default rate to compete with competitive retail offers. In the following summary, it was assumed that stakeholders who did not explicitly say otherwise believed that such competition was acceptable.

Doesn't compete

In their joint submission, the Central Alberta, Lakeland, North Parkland Power and South Alta Rural Electrification Associations stated that an appropriately priced default rate would not be in competition with other retail offers.

Competition is okay

Only two stakeholder groups clearly stated that competition between the default rate and market offerings was appropriate: the Alberta Federation of Rural Electrification Associations and Constellation Energy Commodities Group (with the proviso that the default rate was a "plain vanilla" service that provided reasonable protection against price volatility without undermining competitive offerings).

Atco noted that an "unattractive RRO should not compete with a competitive market." Competitive products should "beat the RRO offer."

Other comments

Comments from other stakeholder groups spanned a wide range:

- Consumers have stated their preference for a stable default rate.
- A default rate is a competitive option, and retailers will need to offer value-added products and services to attract customers.
- The default rate and competitive retail supply offer consumers different term and price structures.
- A regulated stable rate will act as a baseline reference price—"the price to beat." Retailers who beat the regulated price could build a "competitive distinction" that would serve as an effective marketing tool.

"Any default rate competes with competitive retail supply because it gives the consumer a secure and reasonably priced option for which the consumer does not have to make an active choice. The development of a competitive market will best be served by removing default supply. However, that step is not appropriate until a sustainable competitive market has already been created and would continue to exist in the event the default was discontinued."

—Utilities Consumer Advocate submission to the Retail Market Review Committee

"The existence of any type of default supply or supplier of last resort will 'compete' in some form with the competitive market. [But]... the only 'competitive market' worth having is one that can offer a superior alternative (including more than just price) to default supply and/or the supplier of last resort."

—City of Lethbridge submission to the Retail Market Review Committee

Competition is not appropriate

Three organizations were explicit in stating that a default rate should not compete with private-sector retailers. It should not be subsidized, nor should it have any advantage over competitive supply arrangements. (Stakeholders' ideas about how to design a non-competing default rate are summarized later in this chapter.)

Capital Power Corporation cautioned that a default rate must not be designed or intended to be the lowest cost or most stable price option, as this would hamper the ability of competitive retailers to attract customers. They proposed that the default rate should continue to exist as a backstop to ensure all customers could access basic electricity service. Retailers would continue to develop the price, product and service offerings desired by customers without competition from the default rate.

The Independent Power Producers Society of Alberta and TransAlta Corporation commented that a default rate which included longer-term hedges (and more stable prices) would reduce incentives for consumers to shop for similar products from competitive retailers. Enmax Corporation agreed with this position, stating that default rates based on longer-term hedges would be in direct competition with fixed-price competitive contracts.

Enmax suggested that default rates based on spot pricing would not impede the development of a competitive market. Epcor offered a different opinion, noting that a default rate based on pool price flow-through might encourage consumers to switch in order to avoid price volatility, but could hurt competitive retailers who are offering a similar product, and even force them out of the market. This would hinder "the ongoing operation and continued development of the competitive retail electricity market."

Does the existence of a default rate promote or detract from energy efficiency and conservation incentives?

Question 10d) How would the alternative design for a default rate affect the competitive retail market in terms of...iii) the impact on energy efficiency and conservation incentives for customers? (Ministerial Order 13e-ii-c)

Stakeholders offered opinions on how various default rate designs might affect energy efficiency, conservation and consumption:

- Direct Energy, the Independent Power Producers Society of Alberta and TransAlta Corporation noted that the current Regulated Rate Option, which sends a clear price signal in advance, allows consumers to respond by reducing their electricity consumption. IPPSA, TransAlta and Constellation Energy Commodities Group noted that a default rate design that blended prompt-month and longer-term pricing would have the same effect.
- Direct Energy stated that a hedged rate would send a muted price signal. An hourly flow-through rate would send no price signal and therefore have no effect on consumption, conservation or efficiency.
- The Utilities Consumer Advocate noted that rate designs which offer properly timed price signals

give consumers an incentive to alter their electricity consumption patterns and avoid peak periods and peak prices.

- The City of Calgary commented that energy efficiency and conservation are important issues that should be discussed in a broader forum. Programs that encourage efficiency and conservation are not in the best interest of for-profit generators or of transmission and distribution wire owners.
- Epcor said the rate itself does not motivate consumers to reduce their energy consumption because energy costs only constitute 40% to 60% of the bill. Only education and energy efficiency tools can help consumers to reduce their consumption.

Most stakeholders who responded answered this question indirectly, as shown in the following summary of their comments:

- Time-of-use meters that measure hourly consumption would make it possible for consumers to change their electricity consumption in response to hourly prices and support energy efficiency and conservation. (The City of Calgary commented that Alberta is years away from having smart meters and a smart grid at the retail level.)
- The nature of farming operations means electricity consumption cannot be redirected to non-peak hours. Milking cows, drying grain or running fans for livestock simply happens when it needs to happen.
- Consumers have little choice but to consume electricity, and that peak consumption typically aligns with high-price periods.
- There is a need for public awareness and customer education to support energy efficiency and conservation.
- Energy efficiency is not likely to change at current market rates, but may improve if costs increase.
- Electricity price is the most important incentive for energy efficiency and conservation.
- Value-added products offered by competitive retailers could encourage energy efficiency and conservation.
- For consumers who use more than 250,000 kilowatt hours of electricity per year, a default rate based on pool price flow-through could encourage conservation through demand response during high-price hours. (Consumers would use less power when prices were high.)

Spark Power noted that having a stable regulated baseline rate would allow retailers to experiment and deliver efficiency and conservation incentives.

Just Energy suggested that default rate design options would have no impact on energy efficiency and conservation incentives. The City of Lethbridge concurred, noting that consumers make conservation-related decisions for financial or philosophical reasons (such as environmental consciousness). Sustained high prices could encourage conservation, but high prices would likely originate in the electricity wholesale market, not in retail rate designs.

The City of Calgary proposed that rate design options do affect energy and conservation, but emphasized that different consumers have different wants and needs. Some consumers will prefer rates designed to conserve energy, while others will opt for long-term fixed rates that offer price stability. Competitive retailers are better positioned to respond to consumer preferences than regulated retailers who must have their rates approved.

The Independent Power Producers Society of Alberta suggested that, in the absence of a default rate, consumers would choose the degree of energy conservation and efficiency they wanted when they negotiated their retail contracts. Atco agreed in principle, stating that "the marketplace would ultimately decide on energy efficiency and conservation products."

Opinions about Phasing Out the Default Rate

Implications and considerations

What benefits, weaknesses and risks would arise?

Question 3: If it were determined that a default rate was no longer required for some or all eligible customers b) what would be the benefits, weaknesses and risks of phasing out the existing RRO? (Ministerial Order 13c)

Benefits

Price

Just Energy suggested that phasing out the RRO would result in electricity prices that reflect a market rate based on the cost of energy and appropriate margins.

The Alberta Urban Municipalities Association and the Consumers' Coalition of Alberta suggested that restructuring the current RRO would reduce price volatility with no risk to consumers.

Regulatory Costs

FortisAlberta noted that full reliance on competitive retail energy offerings —that is, phasing out the RRO— eliminate the need for reviews of default rate designs.

Epcor noted that phasing out the RRO would reduce the regulatory and administrative burden related to the ongoing approval and management of RRO tariffs and energy price setting plans. The Utilities Consumer Advocate also noted this benefit, adding that it would no longer be necessary for the cost of the negotiations to be passed on to consumers.

Competitiveness and Consumer Choice

Direct Energy Marketing Limited proposed that phasing out the RRO would increase consumer awareness and choice, and that the competitive market would expand as a result of consumers making educated decisions.

The segment of Independent Power Producers Society of Alberta members in favour of phasing out the RRO believed that doing so would create a market environment in which energy was treated like any other goods or services, and consumers made purchasing choices. They also suggested that removing the RRO would remove a barrier to the development of the competitive retail market.

Enmax Corporation believed that phasing out the RRO would attract more retailers to the market, giving Albertans a greater "variety of product packages to meet their individual needs." Epcor proposed that phasing out the RRO could increase the number of entrants, but cautioned that it could also have the opposite effect. Removing the the RRO could "simply result in an increase in the respective market shares of the current large incumbent competitive retailers in the province."

Atco suggested that forcing consumers to choose a competitive retailer could increase market competition and the diversity of available product offerings. The Utilities Consumer Advocate noted that market competition would also result in lower prices for consumers.

TransAlta Corporation noted that phasing out the RRO and creating a fully competitive market would foster innovation.

Weaknesses and Risks

Stakeholder groups noted several negative consequences of discontinuing the current Regulated Rate Option (RRO):

- The current default rate serves as a "provider of last resort" for customers who are unable or unwilling to enter into retail contracts and for customers whose retailer is bankrupt or unable to continue service. Capital Power Corporation noted that changing the system would be disruptive and complex. Epcor cautioned that phasing out the RRO could leave vulnerable Albertans and consumers with poor credit history unable to obtain electricity services.
- Phasing out the RRO could be perceived as forcing customers to switch to competitive contracts to receive electricity. Such action could face significant backlash from the public, and could even result in court action:
    - Atco noted that forcing consumers to switch could be viewed as heavy handed. Public opposition could lead to industry reviews and market adjustments that create uncertainty in both the wholesale and retail electricity markets.
    - Direct Energy and TransAlta cautioned that dissatisfied customers would voice their complaints to the government. Epcor noted "there would likely be significant political risk inherent in phasing out the RRO."
    - The Independent Power Producers Society of Alberta noted that public opposition might trigger calls for broad policy changes that could affect Alberta's successful wholesale market. IPPSA cautioned against eliminating the RRO until consumers were sufficiently educated and could make informed choices.

> "[P]ublic opposition...could introduce new degrees of uncertainty and concern over policy stability across all sectors of the Alberta electricity market, to the detriment of consumers, investors and all industry stakeholders."
>
> — Capital Power Corporation submission to the Retail Market Review Committee

- The City of Lethbridge noted that consumers who prefer the RRO would consider themselves worse off if they had to choose a competitive contract.
- Forced switching to competitive retail providers could lead to an unhealthy concentration of market power, particularly if there is too little competition to prevent price setting by monopolies. Since there are few retail choices in parts of rural Alberta, the implications for rural electrification associations would need to be considered.
- AltaGas noted that phasing out the RRO could decrease liquidity on the wholesale market. There is also a danger that the unregulated affiliates of default suppliers could gain a competitive advantage over other retail suppliers.
- The Utilities Consumer Advocate pointed out that electricity is an essential service. If the RRO is phased out and the resulting market is insufficiently competitive, sellers will have market power and consumers will suffer.
- A number of stakeholders observed that there is no system in place for allocating customers who have not selected a retailer, or for allocating customers who have poor credit or who are unable to pay their bills or post security deposits. Allocating consumers to retailers may cause problems both for the consumer and for the retailer.
- Atco cautioned that consumers who do not understand the electricity industry may sign long-term contracts that are not in their best interest.
- The City of Calgary noted that phasing out the RRO could put the government in the position of having to initiate additional restructuring of the electricity system.
- Epcor noted that phasing out the RRO would leave distribution system owners without a mechanism for collecting electricity services costs when sites are vacant or when there are gaps in retail service (for example, when there is no retailer of record for a site. It would also make it difficult to enforce specific government policies such as the wintertime ban on service disconnections).

- The Utilities Consumer Advocate commented on the interdependence of the retail, wholesale and forward markets. Depending on its design, a regulated retail market offers consumers some insulation from wholesale and forward market conditions. Changes to the structure of the retail market may result in higher consumer prices unless conditions in other markets are taken into consideration.

> Changes to the RRO "must not impede the development of an efficient market or provide unfair advantage to any market participant."
>
> —Just Energy Alberta and Hudson Energy Canada, joint submission to the Retail Market Review Committee

RETIRING THE RRO: IDEAS FROM ENMAX

Enmax Corporation suggested there would be no disadvantage to phasing out the RRO as long as the appropriate preconditions and transition plans were in place. Enmax listed a number of preconditions for retiring the RRO:

- **policy stability and reaffirmation of the government's commitment to the development of a competitive retail market**
- **assurance that the transition to market competition continues to provide reliable electricity at fair market prices**
- **a social safety net and satisfactory provisions to serve vulnerable customers who have trouble making ends meet or who face difficulty in securing retail contracts**
- **a robust competitive market in which all Albertans have access to competitive retailers, switching rates indicate consumer confidence in competitive retailers and market power concerns are not an issue**

Enmax also identified the need for a transition plan (developed with stakeholder input) that:

- **sets out specific actions and milestones**
- **defines how customers who are still on the RRO will be allocated to retailers**
- **outlines the required legislative, regulatory, information system and process changes**
- **incorporates a targeted consumer education program that explains the government's commitment to retail competition, outlines the market structure and sets out the risks and benefits of default versus competitive electricity prices**
- **includes appropriate social programs to ensure vulnerable consumers can access an adequate, reasonably priced supply of electricity**

Enmax supports the elimination of the RRO, but suggested that it should be retained in its current form until it is retired.

What time period would be appropriate?

Question 3: If it were determined that a default rate was no longer required for some or all eligible customers c) what would be the appropriate timing for phasing out the existing RRO? (Ministerial Order 13c)

Stakeholders approached this question in different ways. Some offered suggestions about the desired state of the market before the RRO was phased out:

- Enmax Corporation offered a list of preconditions for phasing out the RRO.
- FortisAlberta suggested that customer switching rates and the natural evolution of the market would indicate the appropriate time for phasing out the RRO. The company proposed that government should schedule a review of the RRO once a critical mass of customers had voluntarily switched to retail suppliers. (FortisAlberta's view is that a critical mass has not yet been reached, that the government lacks the political will to impose forced switching.)
- The City of Calgary advised that consumers should be the ones to decide when the RRO was phased out, and that the decision should be made in an open, public forum through an organization such as the Alberta Utilities Commission. The city's position was that customers are staying on the RRO because they want it to continue. The RRO should therefore be retained until competitive retail options are so attractive that "only a small fraction of customers are on the RRO."
- Atco proposed the RRO could be phased out once competitive retailers had attracted a significant market share. They suggested that an 80% switching rate might be appropriate. Atco also noted that if the RRO were to be phased out, this should be done relatively quickly—after careful transition planning—to eliminate the uncertainty that now exists.
- AltaGas suggested that the RRO could not be phased out unless a province-wide default rate was available to large or small consumers who chose not to sign retail contracts. Regulators would need time to define the rules, and industry stakeholders would need time to implement the required system changes.

Some stakeholders offered specific suggestions about an appropriate time period and processes for phasing out the current RRO. Time estimates ranged from 10 months to five years:

- Allow at least 10 or 12 months for the transition. Use the RRO billing envelope to deliver information that will help people research their options. Implement the change at start of the calendar year (January 1) or on the first day of a calendar quarter (April 1, July 1 or October 1).
- Phase out the RRO by June 30, 2014, when the current regulations expire.
- Allow 36 months.
- Replace the RRO with a competitive market and provider of last resort in two to four years.
- Phase out the RRO over three to four years, to allow sufficient time for a public education campaign and for the design of a customer allocation process for consumers who have not chosen a retail supplier.
- Allow five years. It takes time to close procurement contracts, educate consumers and complete the transition to competitive retail options.
- Implement the phase-out during the summer, when electricity consumption is lower.
- Coordinate changes to the RRO with changes to other energy-related legislation, including natural gas regulations.

What provisions would be needed with regard to a provider of last resort?

Question 3: If it were determined that a default rate was no longer required for some or all eligible customers a) what provisions would be needed to ensure that services from a "provider of last resort" would be available to retail customers? (Ministerial Order 13c)

Who would need a provider of last resort?

The Retail Market Review Committee's questionnaire did not pose this question directly.

The stakeholders who offered opinions on this question defined "provider of last resort" in different ways. Their definitions shaped their views on the appropriateness of using electricity policy to address social issues such as the needs of vulnerable Albertans.

Enmax Corporation noted that consumers would need a provider of last resort in two situations:

- when their chosen retailer is unable to continue to supply
  - In this situation, the provider of last resort serves as transitional supplier until the customer arranges supply from another retailer. The cost of such service is typically set high to encourage customers to make alternative arrangements as quickly as possible.
- when their chosen retailer refuses to supply (typically because the consumer is perceived to be a poor credit risk)

The Utilities Consumer Advocate noted that provider of last resort service should be distinguished from default service. The former service is typically provided when a retailer defaults, and is intended to allow customers to make a transition from the failed retailer to another supplier. Competitive retail markets such as Texas have no default service, which means that all customers must buy their electricity from competitive suppliers. Citing the ABACCUS[5] report, the UCA noted that "eliminating default supply is a critical element of developing a competitive retail electricity market."

Atco noted that a provider of last resort was needed as a "safety net" for customers who are "unattractive to retailers for reasons of creditworthiness or otherwise."

Epcor suggested that all consumers who were currently served by the RRO needed a provider of last resort.

> "If the RRO is phased out, there would still be a need for a default 'supplier of last resort' that all eligible consumers would default to."
>
> —AltaGas submission to the Retail Market Review Committee

TransAlta Corporation said that, if the RRO were phased out, distribution facility owners "would still be required to be the 'provider of last resort' service as set out in the *Electric Utilities Act*."

Implications for Social Policy

The Alberta Federation of Rural Electrification Associations suggested that high-risk consumers would need a provider of last resort. UtilityNet and Constellation Energy Commodities Group noted that vulnerable Albertans, consumers who often did not pay their bills and consumers who did not qualify for retail contracts would also need a provider of last resort.

On the other side of the debate, the Independent Power Producers Society of Alberta suggested that providing for vulnerable Albertans is an issue of social policy. It should be separate from the discussion of default service requirements for consumers who simply have not chosen an alternative supplier. Constellation supported this view, noting that "provider of last resort service is not to be confused with social services need for vulnerable members of society."

Enmax Corporation suggested the best way to help vulnerable customers who had difficulty paying for electricity was through social agencies rather than through electricity policy, but that was not the only way to address the issue. In Texas, for example, a government-funded program called Lite-Up subsidizes the electricity rates paid by low income customers who qualify. In

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[5] Annual Baseline Assessment of Choice in Canada and the United States

Alberta, such a program could be funded through a surcharge on consumer bills or through Balancing Pool funds. Enmax's preference, however, was that vulnerable citizens receive direct assistance through social agencies. Financial support through needs-based social programs meets a variety of objectives:

- It gives consumers access to a full range of social supports.
- It gives all Albertans access to the same competitive plans and prices.
- It is consistent with the government's stance, as expressed in Ministerial Order 32/2010, that it will not subsidize Albertans' electricity costs.

While a number of stakeholders commented that social policy had no place in electricity policy, UtilityNet suggested that fixed-income families, senior citizens and other Albertans who need a social safety net should have access to a subsidized default rate. Spark Power noted that a small group of consumers would always face financial difficulty, and that forming a provincial social assistance fund should be considered.

UtilityNet proposed three categories of default rate for implementation over a three-year period.

- Albertans who need social support should have access to a "social program stable rate" that provides power at a subsidized rate which is 25% below the yearly average cost of power. This should be annualized fixed rate based on long-term fixed hedges administered by the Balancing Pool. The cost of the subsidy should be added to the spot price administered by the Alberta Electric System Operator as part of the monthly load settlement process.
- Albertans who have poor credit and limited retail options should have access to a "supplier of last resort rate" that is provided by distribution wire owners. Time-of-use meters, prepaid electricity plans, load limiters to control power consumption and tiered pricing plans should also be considered as ways of helping these Albertans manage their consumption and reduce their electricity costs.
- Residential, farm and irrigation customers who have not signed electricity contracts should have access to a temporary, transitional default rate that is clearly identified as transitional.

The Utility Network's position is that only customers who need social support and customers whose poor credit limits access to retail options should have access to a permanent default rate.

Who should be a provider of last resort?

The Retail Market Review Committee's questionnaire did not pose this question directly.

The seven stakeholders who offered a suggestion proposed that electricity distribution system owners should serve as the providers of last resort.

The Consumers' Coalition of Alberta suggested the provider of last resort should be an organization that consumers are familiar with and that is subject to oversight by the Alberta Utilities Commission. It also noted that changing the current system and designating one or more competitive retailers as providers of last resort would require a fair process and would be costly.

> "EPCOR recommends that a 'provider of last resort' and the provider's tariff be structured similar to the current default supply tariffs in place for larger customers in the province. EPCOR recommends that the obligation to provide a provider of last resort tariff for small consumption customers be left with the distribution system owners, and that the owners be authorized to make arrangements with other parties to provide the services."
>
> —Epcor Energy Alberta and Epcor Distribution & Transmission submission to the Retail Market Review Committee

How should the transition be managed?

Stakeholders noted that phasing out the RRO and establishing a provider of last resort would require planning, coordination and good communications. They noted the need for:

- a fair process to designate a provider of last resort and establish the rate at which default services would be offered
- a review of best practices in other jurisdictions
- a transitional period during which existing procurement contracts could be closed off
- a transition plan, developed with input from stakeholders, that sets out milestones, defines how customers who are still on the RRO will be assigned to retailers and outlines the required legislative, regulatory, information system and process changes
- a mechanism for allocating customers to service providers or service contracts, including fair systems for allocating customers who have poor credit or who are unable to pay their bills or post security deposits, and adequate retailer and consumer protection (The City of Calgary noted that new regulatory structures may also be required.)
- clear communication between the current electricity provider and the provider of last resort to identify customers who had not selected a retailer and required default service
- pre-established rates, terms and conditions to facilitate an easy transition
- a far-reaching, well-funded communications plan, including strategies for providing consumer education and information

- The Central Alberta, Lakeland, North Parkland Power and South Alta Rural Electrification Associations suggested that current RRO providers could be asked to include information about retail options with their customer bills.
- Enmax Corporation proposed that the Alberta government, the Utilities Consumer Advocate and industry should work together to develop a program that explains the government's commitment to retail competition, outlines the market structure and sets out the risks and benefits of default versus competitive electricity prices.

"There would be a need for a large and well-funded communications plan to ensure that Albertans were better educated on the electricity system... [People don't] fully understand the current system or how proposed changes will affect them...[and will feel coerced unless the need for change is clearly communicated]."

—Alberta Association of Municipal Districts and Counties submission to the Retail Market Review Committee

Opinions about Replacing the Current Default Rate

How should a default rate be designed and determined?

Design Principles

Question 4: How should the default rate be designed? What design principles should be used? (Ministerial Order 13d-i)

Not all stakeholders responded to this question, but those who did offered a variety of ideas about the design of a default rate and the principles that should be used. (The latter are summarized in Table 17.)

The design principles proposed by many stakeholders reflect the duality of purpose that characterized the early days of electricity restructuring, when the design of the default rate was intended to promote the continued growth of the competitive retail market and provide appropriate price protection for consumers.

Some stakeholders, including Atco and the Utilities Consumer Advocate, proposed that these two principles traditionally were mutually exclusive.

- The Utilities Consumer Advocate noted seven principles that are generally associated with default rate design, and observed that "some of these objectives...conflict....No default supply alternative can fully promote all of these objectives and tradeoffs are required".
- Atco noted that "the design principles of the default rate should follow the policy objectives behind it". If the policy intent is to stimulate retail market development, this could be achieved through an unattractive default rate that encouraged customers to leave it, or by completely eliminating a default rate except as a safety net (provider of last resort). If the policy intent is to protect consumers against price fluctuations, the rate design could be based on an average of flow-through wholesale prices.

Other groups, such as Epcor and the Industrial Power Consumers Association of Alberta, suggested an appropriate balance could nonetheless be found.

> "The difficulty with designing a default supply rate is the ability to reconcile conflicting design principles."
>
> —Industrial Power Consumers Association of Alberta submission to the Retail Market Review Committee

> "The continuation of an RRO in Alberta is neither inconsistent with mass market retail competition, nor with its continued development in the province. An appropriate balance can be achieved...between providing small consumption customers with the opportunity to choose a reasonably structured and priced RRO, while at the same time ensuring that no inappropriate barriers are created that would hinder the continued operation and further development of the competitive retail market in Alberta".
>
> —Epcor submission to the Retail Market Review Committee

FortisAlberta cautioned that rate design options intended to reduce price volatility should be carefully investigated to ensure that volatility could be mitigated without harming the integrity of the current energy market.

In general, stakeholders believed that a default rate should be designed in accordance with the principles of a fair, efficient and openly competitive market. It should be fair, transparent, standardized and easy for consumers to understand.

As shown in Table 17, a number of stakeholders suggested the rate design should shield consumers from price volatility, but not interfere with competitive retail offerings.

A number of stakeholders mentioned the regulation of the default rate. Most who recommended an appropriate regulatory authority looked to the Alberta Utilities Commission[6] as the appropriate agency. Spark Power suggested that responsibility for operations should rest with a separate "balancing pool agency."

A number of stakeholders proposed a market-based rate-setting process. Several suggested that the default rate should not be subsidized, but that rate providers should receive an appropriate risk premium.[7] Direct Energy provided the most comprehensive list and suggested that retailers should be compensated for the cost of assuming the following risks:

- the risk of price volatility within a month
- fixed risk related to the actual price of a "commodity transacted over a defined time frame and a specified location"
- the risk that colder or warmer than expected weather will affect demand
- the risk that suppliers will not meet their contractual obligations and that replacement supply will need to be found
- the risk that the cost of credit will increase
- load settlement related risk
- billing-related risks

The following list summarizes other rate design principles suggested by stakeholders:

- system reliability
- universal access to electricity
- universal access to a default rate
- adherence to sound regulatory principles
- energy efficiency and conservation

Stakeholders also offered the following suggestions related to the implementation of a default rate.

- Let the market work.
- Level the playing field. Eliminate the unfair advantage held by retail affiliates of default rate providers.
- Eliminate self-supply.
- Eliminate RRO franchise territories.
- Implement a price cap.
- Address social policy objectives with appropriate programs, not through the design of a default rate.
- Standardize prudential requirements.
- Review prudential requirements to ensure they are still appropriate.
- Report the cost of energy separately from billing, administrative, and transmission and distribution costs.
- Provide equalized billing.[8]
- Define minimum service standards.
- Allow both regulated and competitive retailers to collect deposits[9] and cut off service for non-payment.
- Promote wholesale market liquidity.
- Address the underlying wholesale market issues that have contributed to wholesale market price volatility (and therefore RRO rates) since early 2011.

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[6] The Alberta Urban Municipalities Association noted that municipal council and rural electrification associations were the appropriate regulatory authority for some default rate providers.

[7] Section 5(3) of the Regulated Rate Option Regulation specifies that the risk premium for RRO providers covers all volume risk, price risk, credit risk, and unaccounted-for energy and losses.

[8] Section 23 of the Regulated Rate Option Regulation allows RRO providers to offer an equalized billing plan to customers.

[9] Under an April 2012 amendment to Section 18.1 of the Energy Marketing and Residential Heat Sub-Metering Regulation, "electricity marketers" may collect security deposits from consumers who have no credit history or poor credit, or whose previous electricity supply was cancelled for non-payment. Electricity marketers are competitive retail suppliers. Default suppliers who provide the Regulated Rate Option have always been able to accept deposits. A risk premium built into their rate compensates them for the risk involved in providing electricity to customers who may not pay their bills.

TRADING AND TRADE-OFFS: BALANCING COMPETING OBJECTIVES

The Utilities Consumer Advocate explained what it viewed as the inherent contradiction of minimizing price volatility and maximizing the competitiveness of the retail market.

The UCA noted that minimizing volatility requires the use of longer-term hedges. But longer-term hedges result in product offerings that resemble products available through competitive retailers. This can discourage retail market competition and displace market functions.

"While volatility is a reasonable concern of customers," the UCA maintains that it should not be the basis for determining a default price. "The actual level of volatility of the real time market price reflects the actual price of power in the Alberta market."

Retailers that use long-term hedges to reduce price volatility assume the risk of serving a fixed-price commitment over a long period of time. The risk premium they must include in their final price is passed on to consumers.

The UCA explains: "[N]either the actual volatility nor the risk associated with the volatility of the real time wholesale market price disappears...[when long-term hedges are used]." The volatility remains, but the risk is shifted, in part, to the retailer. "When retail suppliers are required to bear risk on behalf of...customers...[the] cost is passed on to the customers."

The UCA believes "customers should be given as many options as possible for the price they pay," but retail offers should reflect the risks retailers assume when they offer customers prices that differ from wholesale market prices.

Enmax Corporation shares a similar viewpoint: "It is important that decisions respecting hedging be made by individuals based on their own risk tolerance and circumstances rather than by a third party [namely, a default rate provider] on behalf of a group of individuals who have different perspectives and circumstances. The retail market allows individuals to choose the price offer that best suits their personal circumstances".

The Importance of Policy Stability

A number of stakeholders highlighted the importance of policy stability for a successful electricity market.

- Capital Power Corporation noted that policy stability and a long-term government commitment to a default supply and default supply structure would allow all market participants to make the appropriate investment decisions.
- Atco observed that the current situation creates uncertainty for both the retail sector and the wholesale electricity market. The choice of approaches to default rate design must reflect clear government policy objectives. Price stability can be achieved through rate design. It can also be achieved by eliminating the RRO or designing a default rate that is less attractive, which would encourage people to sign competitive, fixed-price contracts. Once the purpose of the default rate is established, appropriate procurement plans and risk premiums can be designed and negotiated.
- The City of Lethbridge commented that the lack of policy stability makes it difficult for the city—as a non-profit municipal default rate provider—to procure electricity through blended hedge portfolios that would allow it to stabilize costs and minimize risks. Ideally, the city would prefer to hedge up to 50% of its load for terms up to three years, and 30-40% for shorter terms, and to ensure that no more than one-third of its hedges expired at the same time. "However, this is all made impractical and imprudent by the instability of provincial government policy. Rarely, if ever, since the 1995 *Electric Utilities Act* has Lethbridge ever been certain it would be responsible for providing default supply three years into the future."

In questions 7 through 14, most stakeholders did not distinguish between small consumers who use less than 250,000 kilowatt hours of electricity per year and consumers who use more. It was assumed their comments were made in reference to small consumers who are eligible for the Regulated Rate Option (RRO)—the current default rate for small consumers.

Only AltaGas offered specific rate design recommendations for large consumers.

Design Mechanisms

Question 7: What mechanisms should be used to determine the default rate? (Ministerial Order 13d-iv)

In the following section, "mechanism" refers to the method by which the default rate is set. The current mechanism is a regulator-approved, provider-specific, energy price setting plan (EPSP) based on one-month-forward pricing. EPSPs set out how energy will be procured for customers and how the rates paid by customers will be calculated. The cost of electricity, the cost of procurement, administrative costs and risk premiums are included in the rates paid by customers.

Section 1(j) of the Regulated Rate Option Regulation defines a risk margin as "the just and reasonable financial compensation" approved to cover financial risks "associated with the supply of electricity services to regulated rate customers."

Stakeholders interpreted the term mechanism in a number of ways. Many suggested design variations or procurement options in response to the question. (Stakeholder opinions on these topics are discussed later in this chapter.)

A compilation of stakeholders' observations about default rate design and design mechanisms follows:

- Atco noted that a longer forward purchasing period or a longer averaging period would make the rate less volatile.
- AltaGas advised that a mandated, standard provincial rate design methodology would support transparency and understanding in the marketplace, as well as rate equality across the province.
- Constellation Energy Commodities Group suggested that the default rate should be set through a bidding process or through competitive auctions open to all qualified suppliers, and that self-supply should only be permitted when the default provider has participated in a bidding process or auction.
- Direct Energy (one of Alberta's RRO providers, through Direct Energy Regulated Services) proposed that the current mechanism for determining the default rate is

still appropriate, and best serves customers.

- Epcor (another RRO provider) also supports the current mechanism for determining the default rate, noting that forward market procurement and energy price-setting plans have produced RRO rates that are "accessible, predictable, transparent, fair, efficient and openly competitive" and that promote consumer choice. In Epcor's view, however, the current default rate design mechanism exposes consumers to an unacceptable level of price volatility. To address this issue, Epcor recommended amending the RRO regulation to allow 50% of procurements to include longer-term hedges and to extend the procurement window from 45 to 90 days.
- Enmax (also an RRO provider) supports the current mechanism for determining the default rate, but proposed that the energy price-setting plans of default rate providers should be "structured to follow a standard procurement methodology, adjusted for elements such as different territory characteristics".

> Enmax does not support the suggestion, made by some stakeholders, that the RRO should be restructured to include longer-term hedges. Such a move would place the RRO in direct competition with fixed-price contracts offered by competitive retailers, and hamper the growth of the competitive retail market. The introduction of longer-term hedges could increase credit risk and liquidity risk
>
> Enmax also does not support the suggestion that the RRO should be restructured to reflect spot prices rather than month-ahead prices. While such a change would make the RRO rate more consistent with the spot price, this deprives consumers of price certainty and offers no benefit. It may even be detrimental, since consumers would no longer have an advance price signal, and could not change their consumption in response to high prices.
>
> Both types of changes could require billing system changes and increase costs.
>
> —Enmax Corporation submission to the Retail Market Review Committee

- The City of Calgary recommended that electricity rates should be designed through Alberta Utilities Commission hearings where the concerns of all stakeholders can be heard and evaluated.
- The Industrial Power Consumers Association of Alberta supported the continuation of the Alberta Utilities Commission-regulated negotiated settlement process use to determine default rates. The process is less costly than a formal hearing, yet leads to similar results.
- Members of the Independent Power Producers Society of Alberta held opposing views on an appropriate rate design mechanism, but nevertheless supported the principle that energy price-setting plans should be approved by the Alberta Utilities Commission. They proposed that any changes to procurement plans should be brought forward through the commission.
- Just Energy recommended the rate-setting methodology should be a predetermined formula used by all providers and incorporating a risk premium and profit margin.
- The City of Lethbridge recommended ending the current prohibition on deferral accounts.[10]
- Spark Power proposed the default rate should be a stable rate set by a balancing pool agency separate from the Alberta Electric System Operator, the Alberta Utilities Commission and other government agencies. This agency would develop a wholesale portfolio with staggered terms and various volumes that could be brought to the market. All retailers could offer this product under standard terms and conditions, using the same billing process as the current RRO.
- TransAlta Corporation suggested the Department of Energy's stakeholder engagement process could be supplemented by consumer surveys to gather input on appropriate rate design mechanisms.
- The Utilities Consumer Advocate described the current rate regulation mechanism and presumed that any form of default service would need to be regulated. The UCA noted the need for a regulated mechanism that outlined how rate providers (individually or as a

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[10] See Table 17. Proposed design principles for a default rate. The City of Calgary and the Consumers' Coalition of Alberta also supported the use of deferral accounts. Direct Energy said they should be prohibited.

> group) would calculate their default rate for a given period. In the UCA's view, energy price-setting plans (the current mechanism) are a suitable regulatory mechanism, but whatever method is used, it should be regulated by the Alberta Utilities Commission to ensure consumers are adequately protected.

Table 18 and Table 19 summarize the suggestions made by stakeholders who responded to Questions 9 and 10.

Stakeholders addressed these questions in a variety of ways. Some presented detailed design options, and some made general statements about default rate design. Stakeholders who presented a number of design options did not always indicate their preferred choice.

Although Question 9 asked for alternatives, a number of stakeholders proposed the current default rate design as an option. (It was not always clear if they were advocating the current design as their preferred option.) Stakeholders' assessment of the benefits, weaknesses and risks of the current design are summarized in the tables.

Some stakeholders offered their opinions about the effect of specific types of changes to the existing default rate design.

The Industrial Power Consumers Association of Alberta noted that changes to the structure of the wholesale market affect retail market rates. Alternative default rate designs must reflect any structural changes that may be made to address recent concerns about hourly price polarization in the wholesale market.

IPCAA's view is that a lack of liquidity in the forward market caused the high rate levels seen in the winter of 2011-2012. The association recommends that the design and procurement processes for the default rate should be guided by the principle of "least political risk." They proposed establishing a long-term rate structure that minimizes the price fluctuations that occur within any given month and draws from the forward market without inducing liquidity premiums:

> A default supply rate set by calendar quarter and based on procurement by the existing providers, established by the negotiated settlement process, would provide a balance between reasonable rate stability and a reflection of the current wholesale market.

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
Alberta Association of Municipal Districts and Counties					Preserve transparency by reporting the cost of energy separately from billing and administrative costs.
Alberta Federation of Rural Electrification Associations	Use a hedged portfolio to set a default rate. Include long- and short-term products to moderate price peaks and valleys.		Regulate fluctuation levels.	Include administrative, risk management and billing costs in the price.	Deliver economical prices for rural consumers. Ensure that all Albertans have access to a default rate.
Alberta Urban Municipalities Association	Mitigate price volatility. Ensure that government policy doesn't intentionally expose customers to volatility.		Use the appropriate regulatory authority (municipal council, rural electrification association or Alberta Utilities Commission) to approve a fair rate of return.	Develop an approved price setting plan to ensure that consumers are paying a fair rate. Allow providers to earn a fair rate of return. Include the cost of unaccounted-for energy, line losses, customer care and billing, and costs related to the Payment In Lieu of Tax Regulation.	Safeguard system reliability. Ensure that all consumers have access to electricity.

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[11] Not all stakeholders answered this question, and those who did addressed it in different ways. To the extent possible, stakeholders' responses have been grouped by similar themes in order to facilitate comparisons. Responses that specifically addressed topics covered in later questions in the stakeholder questionnaire are discussed later in this chapter. For example, if a proposed design principle was that wire owners should deliver the default rate, this information is discussed p. 87, in the section which deals with question 8. If a proposed principle related to procurement, it is discussed on p. 80, in the section which deals with question 12. If a proposed principle dealt with price stability as well as procurement, it is listed in Table 16 as well in subsequent sections of this chapter.

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
AltaGas Ltd.	Minimize price volatility for residential consumers without locking in prices for extended periods. Expose large commercial and industrial consumers to the volatility of spot market prices: business owners should be capable of managing their costs proactively.	Follow the principles of a fair, efficient and openly competitive market. Maintain a level playing field for competitive retailers. Ensure that the default rate is not the price to beat, is not subsidized and does not compete with retail offerings.	Set provincial standards to ensure transparent, consistent procurement processes for all default suppliers.	Include all risks and costs (including billing costs and the cost of credit) in the price of the default rate.	Promote energy efficiency and conservation. Promote wholesale market liquidity. Ensure that consumers can choose a competitive retailer and leave the default supply without penalty. Extend the right to collect deposits and cut off services for nonpayment to competitive retailers.
AltaLink	Address ratepayers' concerns by reducing the volatility of electricity prices.				
Atco (submission from Atco Electric; presentation by Atco Energy & Utilities, Atco Electric and Atco Power)					Design the default rate to reflect intended policy objectives, whatever these may be.

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
Capital Power Corporation	Provide appropriate price protection to shield customers from excessive volatility.	Stimulate retail market development by prohibiting longer-term hedging that would compete with retailers. Adhere to the principles of fair, efficient and open competition, as specified in regulation. Maintain a level playing field by introducing provisions to ensure that [wholesale market] bids and offers for regulated products are undistinguishable from bids and offers for non-regulated products. Ensure that the rate-setting process is fair, transparent, reflective of market fundamentals and consistent across all providers.	Review codes of conduct and eliminate competitive inequities that may exist as a result of interaction between retailers' regulated and unregulated activities. Regulate electricity delivery through the Alberta Utilities Commission. Monitor electricity procurement and adherence to the principles of fair, efficient and open competition through the Market Surveillance Administrator.	Use market-based pricing. Include procurement costs in the price. Include billing and administration charges. Include a reasonable risk margin to cover the cost of risk management as well as the volume, price and credit risks and unaccounted-for energy and losses that are allowed by the Regulated Rate Option Regulation. Allow providers to recover the cost of developing risk management tools until such time that it is cost-effective for them to contract third parties to provide risk management services.	On customer bills, maintain the current separation between energy costs and other costs: this provides transparency and improves customer awareness. Include billing, administration and risk management costs as separate line items. Define minimum service standards for connection times and other customer services.

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
Central Alberta, Lakeland, North Parkland Power and South Alta REAs				Use market-based pricing. Include a risk margin to cover the cost of customers' bad credit and expected bad credit, volume risk, price risk, credit risk and bad debt.	
City of Calgary	Provide price stability by using longer-term hedges that "provide a relatively stable benchmark price that competitive retailers should be able to outperform".		Use a formal, public Alberta Utilities Commission proceeding to design the default rate.		Use deferral accounts to deal with swings in consumption volume.
City of Lethbridge				For municipalities, eliminate the requirement for payments in lieu of taxes to be made to the Balancing Pool. Allow deferral accounts[12] to manage variances in monthly volume forecasts: this reduces risk margins and prices. Include the full cost of providing default service, including all prudent costs and appropriate risk margins.	Design a full-cost, unsubsidized, regulator-approved default rate which ensures that consumers are not worse off in a deregulated retail market.

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[12] Section 3(2) of the Regulated Rate Option Regulation prohibits the use of deferral accounts, true-ups or rate riders for energy-related costs. The City of Lethbridge, the City of Calgary and the Consumers' Coalition of Alberta said that deferral accounts should be allowed. Direct Energy said they should be prohibited.

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
Constellation Energy Commodities Group				Base the default rate on market prices. (Artificially created low prices would undermine competitive retailers.)	Follow the design principles proposed by the Independent Power Producers Society of Alberta. (See the entry in this table.)
Consumers' Coalition of Alberta			Use regulatory approvals.	Retail prices should reflect the wholesale market cost of electricity and minimize short-term price volatility. The default rate should not include artificial costs or mechanisms that create higher prices to facilitate market development. The default rate should cover administrative costs, risk margins, credit and volume risks, trading costs, income taxes, retail adjustment to market (RAM) costs and uplift charges.	Adhere to sound regulatory and rate-setting principles. Protect the public interest. Prohibit retailers from designing the default rate "as this borders on a type of collusion between sellers." Give customers the option of equalized billing. Amend the Regulated Rate Option Regulation to allow deferral accounts for the flow-through of procurement costs such as costs related to the wind-up of hedges, RAM charges and uplift charges. Deferral accounts are required because default rate providers have no control over pool prices or forward prices

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
Direct Energy Marketing Limited (on behalf of Direct Energy Regulated Services and Direct Energy Partnership)		Mimic the cost structure of competitive retail alternatives.		Include all retail-related costs, including the cost of acquiring customers plus a reasonable profit margin. (This allows consumers to make an apples-to-apples comparison of the default rate and competitive retail offerings.) Include an appropriate risk margin. Prohibit deferral accounts for energy and customer care costs.	Design as a short-term transition rate as full market competition evolves. Do not include social policy objectives. Standardize the prudential requirements for retailers. Review the guidelines for prudential requirements. These were put into place when the retail market first opened and are probably more stringent than they need to be.

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
Enmax Corporation		Structure the default rate in a manner that minimizes competition with retail offerings and does not undermine the development of the retail market. (Enmax presented this as a primary principle.) Follow the principles of a fair, efficient and openly competitive market.		Include the following costs in the default rate: administration costs, procurement and procurement management costs, credit costs, costs associated with unaccounted-for energy and line losses, the costs of payments in lieu of taxes, retail adjustment to market (RAM) costs, uplift costs. Include appropriate risk compensation and return margins. Collect non-energy costs (such as the cost of bad debt) separately so that consumers have an accurate commodity price signal.	For consumers who use the default rate, ensure that it provides accurate, timely information about the cost of the electricity they use. Design the rate as a transition rate: "any move to restore long-term hedges...would set the RRO up as a direct competitor" to retail offerings and contravene the government's stated policies. Ensure that rate offers only "a very basic service that addresses basic needs": value-added services should only be available through competitive retailers.

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
Epcor Energy Alberta Inc. and Epcor Distribution & Transmission Inc.	Design a predictable, "moderately stable" default rate that provides "appropriate exposure to market pricing" and facilitates consumer decision-making with regard to the choice of retail versus regulated offerings. At the same time, ensure that there are no inappropriate barriers to the development of the competitive retail market.	Follow the principles of a fair, efficient and openly competitive market.		Include the following costs in the default rate: commodity risk margins, administrative risk margins, trading costs, costs related to the development and management of energy price-setting plans, retail adjustment to market (RAM) costs, uplift charges, costs associated with regulatory approvals and compliance and with monitoring performance standards, collection and credit costs. Include return margins that compensate default providers for the obligation to provide default services. Ensure that default rate providers receive "just and reasonable risk and return compensation," but only for costs that are "prudently incurred in providing service" (p. 10). Do not artificially inflate costs to penalize customers for choosing the default rate. Do not include costs related to acquiring customers.	Ensure that the rate design is simple and transparent. Ensure that the rate is accessible to all consumers, "even if they are small, credit challenged or vulnerable, or simply choose not to sign a competitive contract for electricity services" (p. 9).

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
Industrial Power Consumers Association of Alberta					Provide transparency and volumes to the forward market without raising obstacles and causing price premiums for other consumers who wish to purchase energy.
Independent Power Producers Society of Alberta[13]	The default rate should not minimize price volatility: such protection is available through retail contracts.	The rate design should not undermine incentives for customers to shop for electricity. Ensure the fair, efficient and open procurement of default supply. Ensure a level playing field for all potential suppliers.	Default rate-related procurement costs should be approved by the Alberta Utilities Commission.	Do not subsidize the default rate. Ensure that it includes all legitimate costs. Ensure that the rate reflects true market prices.	"Let markets work" (p. 4): "policy-makers attempting to engineer market outcomes can get it wrong" (p. 3). For Albertans who legitimately need help to manage their cost of living, provide financial support outside of the electricity market.
Just Energy Alberta (also representing Hudson Energy Canada Corporation)				Use a market-based design that reflects current market conditions and procurement costs. Include a risk premium and profit margin in the price.	Standardize the rate-setting methodology for all providers.

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[13] The information in this table reflects recommendations from IPSAA members who believe that a government-regulated default rate should be retained. Some IPSAA members believe that the default rate should be phased out.

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
Spark Power	Reintroduce a stable rate option that reduces price volatility, allows flexibility in purchasing and developing energy portfolios, standardizes terms and conditions, and offers the same standard rate to all consumers.			Include billing costs, the cost of managing the hedging process and a premium to cover credit and volume risk. Consider a price cap that could not be exceeded with approval from the Alberta Utilities Commission.	
TransAlta Corporation				Include all legitimate costs related to supplying electric energy.	Encourage wholesale market liquidity. Eliminate self-supply.
Utilities Consumer Advocate	Minimizing price volatility must be weighed against impediments to competition and impacts on consumer prices.	Promote fairness to all consumers. Encourage retail market competition and minimize barriers for customers who wish to switch suppliers.		Ensure that consumers pay the full cost of electricity including the risks associated with the provision of the service and avoid the need for true-ups or rate riders to recover costs that weren't properly recovered; Minimize the delivered price and avoid undue charges to customers.	Ensure that the rate design is transparent and easy to understand so that customers can anticipate future prices compare the terms and conditions with those offered by competitive retailers. Ensure that the rate is easy to set, implement and administer.

Table 17. Proposed design principles for a default rate[11]

	Price Stability	Competition and Fairness	Regulation and Oversight	Pricing Rules	Other
Utility Network & Partners Inc. (representing Adagio Energy, Bow Valley Power, Brighter Futures Energy, E NRG, Milner Power, Mountain View Power, Spark Power, Spot Power and Vector Energy)		Ensure that retailers who offer both a default and a competitive rate do not gain unfair advantage by cross-subsidizing processes and operational costs. Maintain a level playing field by ensuring that default suppliers and their retail arms do not share market- and cost-related information with one another.		Ensure that the cost of energy equals or exceeds the actual posted cost of energy. Include all cost elements in the rate.	Eliminate RRO franchise territories held by wire companies (distributors) and municipalities.
West Wetaskiwin Rural Electrification Association	Provide price stability for consumers.				

Design Options and Impacts

Question 9: Please provide your views on alternatives to the current default rate design.

a) Include your assessment of the benefits, weaknesses and risks of each alternative. (Ministerial Order 13d-vi and 13d-vii)

Question 10: For each alternative default rate design described in your response to Question 9 (see p. 59), please address the following questions:

a) How would this alternative accommodate significant swings in consumption volumes? (Ministerial Order 13d-viii)

b) How would the regulated rate providers' current billing systems be affected? What would be the impact? (Ministerial Order 13d-ix)

c) How would the credit requirements for the current regulated rate providers be affected? What would be the impact? (Ministerial Order 13d-x)

d) How would the alternative design for a default rate affect the competitive retail market in terms of...: i) the sustainability of the competitive retail market? and iii) the impact on energy efficiency and conservation incentives for customers? (Ministerial Order 13e-ii-c).

THE ELEMENTS OF RATE DESIGN

The Utilities Consumer Advocate noted that any rate design would be the result of two factors:

- **the mode of procurement of electricity supply, which could include transactions for future delivery or real-time market purchases**
- **the decision on how to allocate supply costs to consumers**

Within these two factors, numerous variations are possible.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Price-to-Beat (sets the default rate at an above-market level)					
	Capital Power Corporation (proposed as one of three options; no preference stated)	High prices and price variability provide incentives for consumers to switch to competitive retail contracts.	Not consistent with Alberta's Regulated Rate Option Regulation section 4(1), which requires just, reasonable, market-based prices. Punitive to consumers.	Forcing customers to choose retailers in order to avoid punitive pricing could incite public opposition.	
Hourly Flow-Through (sets the default rate to match hourly spot market [power pool] prices)					
	Capital Power Corporation (proposed as one of three options; no preference stated)	Provides flexibility; allows the default rate to respond to changes in load.	Exposes consumers to the extreme volatility of hourly prices and the highest degree of month-to-month price volatility. Requires customer billing after the fact. In the absence of smart metering, customers do not know the price of electricity at the time they are using it, and cannot reduce their usage when prices are high. Reduces market liquidity by removing known buyers (that is, purchasers of supply for default-rate customers) from the market.	Introduction of a flow-through rate will disrupt the market for an unknown period until retailers are able to sign customers to competitive contracts that use a variety of hedged terms. Price volatility increases the risk of political interference to mitigate the impact on consumers. The risk of interference affects investor confidence and influences decisions about investing in new generation, which could result in shortages of supply.	Could compete with competitive retail offerings.

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[14] Utility Network & Partners proposed three types of default rate, including two options for a transitional rate (described in this table) and options for "social program" and "supplier of last resort rates".

[15] This column includes stakeholders' comments (where provided) on the impact that their proposed design change would have on consumption swings, billing systems, credit requirements, efficiency and conservation, and the sustainability of the competitive market.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
	Direct Energy (proposed as one of three options)	Reduces administration and procurement costs.	No advance price signal, so consumers cannot change their consumption in response to high prices.		When consumption volumes change, the consumer carries the risk. Billing system upgrades may be required. Credit might be slightly less expensive. Could compete with competitive retail offerings.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
	Utilities Consumer Advocate (proposed as one of five options; no preference stated)	Eliminates volume risks. Power is purchased in real time (through the wholesale market administered by the Alberta Electric System Operator) in quantities that exactly match demand. Eliminates price risks. Consumers pay the actual market price of their consumption, averaged over their billing period. Tracks actual costs and ensures that consumers pay the true cost of electricity. Provides the lowest possible prices because there are no risk premiums and administrative costs are low. Promotes retail competition by exposing consumers to the volatility of the market.	No advance price signal, so consumers cannot change their consumption in response to high prices. (This weakness could be addressed by having a neutral party such as the Alberta Electric System Operator prepare a monthly price forecast.)		No adjustments are needed to respond to consumption swings. (Procurement requirements are met in the real-time wholesale market.) Rate providers must set up billing systems that compute the net demand and average hourly energy price for the consumers they serve. Establishing these systems may be costly, but once they are in place, the ongoing cost may be less than the cost of current systems. No impact on credit requirements. Could support the sustainability of the competitive retail market.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
With monthly true-up	Atco (one of two proposed options) UtilityNet (proposed as a transitional rate, and as one of two options; no preference stated)	Eliminates the speculative risk associated with forward market purchasing.			
Implemented in conjunction with equalized billing	Consumers' Coalition of Alberta (proposed as one of two options; no preference stated)	Provides a "no frills" essential service that protects vulnerable Albertans, including Albertans who do not choose competitive options. Intended to minimize short-term price fluctuations. Does not compete with retail offerings.	A flow-through rate creates an unpredictable rate. This weakness could be addressed by equalized billing.	Consumers could face high prices if wholesale prices spiked for extended periods.	Incentives for energy efficiency and conservation must be measured before refinements can be made.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Blended Options					
Hourly flow-through combined with hedged products, implemented in conjunction with equalized billing	Consumers' Coalition of Alberta (proposed as one of two options; no preference stated)	Provides a "no frills" essential service that protects vulnerable Albertans, including Albertans who do not choose competitive options. Intended to minimize short-term price fluctuations. Does not compete with retail offerings. Provides flexibility with regard to hedge terms and instruments.	A flow-through rate creates an unpredictable rate. This weakness could be addressed by equalized billing.	Consumers could face high prices if wholesale prices spiked for extended periods.	Incentives for energy efficiency and conservation must be measured before refinements can be made.
Hourly flow-through for 20–30% of supply, combined with longer-term hedged products for 70–80%	Wetaskiwin Rural Electrification Association				

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Hedged Portfolios (energy is purchased in the forward market and the default rate includes risk premiums)					
Short-term rolling hedges	AltaGas (preferred choice of two proposed options)	Less susceptible to changing short-term supply and demand forecasts. Consumer exposure to market volatility encourages switching to competitive suppliers.	Incumbent providers may be reluctant to incur the cost of implementing new processes and systems. Fails to acknowledge that competitive options are currently available to consumers.	The allowed risk margin for price and volume may be considerably less than for the current one-month-forward hedge. (The risk margin for credit, losses and unaccounted-for energy would be similar to current margins.)	No impact on energy conservation until time-of-use metering is available for small consumers.
Fully or partially hedged term offering	Direct Energy (proposed as one of three options)	Provides price stability from month to month. Allows for monthly, quarterly or annual price adjustments.	Increases the cost of prudential requirements needed to secure supply. Locks customers into rates that may be higher than current market prices. Competes with products offered by competitive retail suppliers, hampering the development of the competitive market. Fails to provide customers with clear wholesale market price signals, which hinders their ability to make informed choices. Requires entry and exit fees and notice periods.	Customers could be locked into higher than market prices. A partially hedged program would reduce, but not eliminate, price volatility. "Switching has the potential to result in stranded costs borne by the remaining customer base"	The rate provider carries the risk of consumption swings, and is compensated by the risk margin embedded in the rate. No impact on billing systems. More credit is needed, so credit costs increase. Muted price signal does not encourage energy efficiency and conservation. Could compete with term contracts offered by competitive retailers.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Long-term hedging (over three-year periods)	Alberta Association of Urban Municipalities	Provides stable prices that do not fluctuate from month to month.			Manage consumption swings in price-setting plans and by "allowing owners to financially quantify volumetric risks." Alternatively, use a one-month deferral system. Minimal impact on billing, except for standardizing utility bill formats. No impact on credit requirements. No impact on energy and conservation incentives.
Blended hedge portfolio including long- and short-term products; monthly prices stabilized with a balancing mechanism	Alberta Federation of Rural Electrification Associations	Moderates price peaks and valleys and provides consumers with a stable rate. Reduces consumer anxiety and financial strain.			Balancing calculation moderates consumption swings. Minimal impact on billing systems. Depending on the type of hedge contract used, credit requirements could increase. No impact on efficiency and conservation, but this could change if costs increased significantly.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Blended hedge portfolio including short- and long-term products, with hedge periods ranging from three months to two years	Constellation Energy Commodities Group	Moderates price volatility and reduces the potential for consumer complaints. Provides retailers with a "price to beat" for term contracts. May improve forward market liquidity.	Reduces consumers' incentives to shop for similar products offered by competitive retailers. (Constellation believes that the benefits outweigh this risk.) Price volatility is reduced, but not eliminated, so the risk of political backlash remains when prices are high.	The product will not satisfy consumers who expect both low-priced and stably priced energy.	Swings in consumption volume would continue to be managed by consumers and by RRO providers, who are responsible for load shape and forecast risk. No change to billing systems. Credit requirements would increase. No impact on efficiency and conservation. Would not have much impact on the sustainability of the competitive market, even though customers would have less incentive to shop for similar products offered by competitive retailers.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Blended hedge portfolio with one-month-forward procurement combined with longer-term hedges	Independent Power Producers Society of Alberta and TransAlta Corporation (one of three proposed options, including the elimination of the RRO, which is discussed in an earlier section of this chapter; IPPSA members were divided in their design option preferences)	Reduces price volatility for consumers who do not or cannot choose an alternative supplier. May provide retailers with a "price to beat" for term contracts. May improve forward market liquidity.	Duplicates competitive term products. (This may also be a benefit, since competitive retailers would have a "price to beat.")	Long-term procurement may result in higher-than-market prices, exposing the RRO to the risk of political backlash. The product will not satisfy consumers who expect both low-priced and stably priced energy.	Swings in consumption volume would continue to be managed by consumers and by RRO providers, who are responsible for load shape and forecast risk. No change to billing systems. Credit requirements would increase. A high-priced blended RRO may spur demand response. A low-priced blended RRO may mute price volatility and reduce the incentive for consumers to conserve energy. Could affect the sustainability of the competitive market. Both companies noted that customers would have less incentive to shop for and switch to similar products offered by competitive retailers. TransAlta suggested that, on the other hand, a default rate that included longer-term hedges could support the competitive market by providing a clear price to beat.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Blended hedge portfolio with one-month-forward procurement (or procurement within a longer window) combined with longer-term hedges such as one-year contracts	AltaLink (preferred option; no others stated)	Longer-term hedges reduce price volatility. A longer procurement window allows providers to minimize the impact that short-term events have on price and affords more opportunities to capture low-price periods for the benefit of customers.			

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Blended hedge portfolio with 50% one-month-forward procurement and 50% longer-term hedges (quarterly, semi-annual and annual contracts), and a 90-day procurement window	Epcor[16]	Provides consumers with a moderately stable default rate. Exposes consumers to sufficient price volatility to provide an appropriate price signal and to support the continued development of the competitive retail market.			Consumers do not have the ability to accommodate significant consumption swings, but they have the option of signing on to billing programs that allow them to equalize their annual electricity costs into monthly payments. From the provider's perspective, the ability to hedge a portion of the required supply through a monthly forward contract helps to manage consumption swings. No impact on billing systems. May increase credit requirements. No impact on efficiency and conservation. No significant impact on the sustainability of the competitive market.

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[16] Epcor analyzed the effects of pool price flow-through, 100% month-forward contracts, and a number of variations of blended portfolios on the month-to-month price volatility of default rates. The option included in this table provides the most appropriate balance, in Epcor's view: it provides consumers with a moderately stable default rate while maintaining sufficient volatility to produce a price signal that can encourage consumers to seek competitive retail options. For details about the other options, see pp. 30-35 of Epcor's submission to the Retail Market Review Committee.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Staggered hedge portfolio, with one-month-forward procurement of 75% of supply and two-year hedges for 25% of supply procured through twice-yearly requests for proposals	Utilities Consumer Advocate (proposed as one of five options; no preference stated)	Reduces price volatility and provides consumers with a fixed rate for a six-month period. Creates demand for wholesale contracts and contributes to the development of the wholesale market.	Long-term price stability reduces consumers' incentives to shop for competitive contracts. Providers must be compensated for carrying the volume risk related to long-term purchases: this raises prices. Regulated procurement adds complexity and administrative costs, which are reflected in the price.		Swings in consumption volumes can be managed by adjusting the quantities procured in the twice-yearly RFP process. A mechanism is needed to compensate providers for the additional volumetric risks they could incur when they buy or sell in the hourly or forward market to respond to consumption volume swings. No impact on billing systems. Credit requirements remain a function of the providers' expected financial obligations to meet its customers' needs. Higher priced than some design options, so may provide more incentive for consumers to use energy efficiently. Could hinder the sustainability of the competitive retail market.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Staggered hedge portfolio, with two-year-forward procurement through twice-yearly requests for proposals	Utilities Consumer Advocate (proposed as one of five options; no preference stated)	Provides price stability for six-month periods. The energy supplier, not the rate provider, is responsible for meeting demand as it occurs, so that the provider no longer carries the volume risk, and no longer requires a premium for that risk. The supplier's price has a risk premium built in. The price "accurately reflects the risk created by the default supply price." Contributes to the development of the wholesale market.	Long-term price stability reduces consumers' incentives to shop for competitive contracts. Regulated procurement adds complexity and administrative costs, which are reflected in the price.	May compete with non-regulated retail offerings.	The risk of consumption volume swings is borne by wholesale suppliers, who build a risk premium into their offered price. No impact on billing systems. Credit requirements remain a function of the providers' expected financial obligations to meet its customers' needs. Higher priced than some design options, so may provide more incentive for consumers to use energy efficiently. Could hinder the sustainability of the competitive retail market.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Stable rate option derived through centralized procurement of a balanced hedge portfolio	Spark Power	Gives all consumers access to the same stable price. Provides retailers and wire owners with flexibility in purchasing and developing energy portfolios. Makes it possible for all retailers to offer a standard stable rate as a reference price or price to beat. Provides a marketing advantage for retailers who can offer products at a rate below the stable rate price. Levels the playing field for small retailers and supports the development of locally based, environmentally friendly sources of generation that could reduce consumer costs. Provides opportunities for consumers to form cooperatives and enter the retail market without start-up costs.	Centralized procurement could result in artificial downward pressure on electricity prices, putting it in direct competition with competitive retailers.		Leverages retail infrastructure, which was created at considerable consumer cost, for consumers' long-term benefit. Requires standardized credit thresholds for retailers, plus deposits for amounts above the set threshold. Having a stable rate option that serves as a reference price allows retailers to experiment with efficiency and conservation incentives.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Energy purchased by a single aggregator under a fixed-term contract (proposed as a transitional rate)	UtilityNet (proposed as one of two options; no preference stated)	Provides a province-wide fixed rate. Makes it possible for all retailers to offer a standard rate differentiated by their particular terms and conditions.			No impact on consumption swings. No impact on billing systems. Requiring a one-month prepayment would reduce bad debt and credit risk, putting the risk of default on the customer, not the retailer. Encouraging consumers to install time-of-use meters would stimulate new retail offerings that would put consumers in charge of reducing their energy costs.
Current RRO Design					
	Independent Power Producers Society of Alberta and TransAlta Corporation (one of three proposed options, including the elimination of the RRO, which is discussed in an earlier section of this chapter; IPPSA members were divided in their design option preferences)	The status quo is simple to administer. The retail market has adapted to this design. Consumers know the cost of energy in advance of consumption, and can adjust their energy usage in response to price.	The RRO is subject to political backlash, as witnessed in December 2011 and January 2012. (Concern about the RRO appears to have diminished since this time, as RRO rates have fallen.)	The RRO remains at risk of political backlash every time the price spikes to an as yet undefined "unacceptable" level. There is a danger that concerns about the RRO may precipitate political interference in Alberta's wholesale market.	Swings in consumption volume would continue to be managed by consumers and by RRO providers, who are responsible for load shape and forecast risk. No change to billing systems. No change to credit requirements.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Viewed as a transitional rate to be phased out in 10 or 12 months	Central Alberta, Lakeland, North Parkland Power and South Alta REAs	The current design is suitable for any supplier of last resort. The current design provides an incentive for default rate customers to sign retail contracts. This promotes the sustainability of the competitive retail market.	Monthly exposure to changing prices.		The rate provider carries the risk of consumption swings, and needs a risk premium to compensate for forecast and leakage. No impact on billing systems. Little or no impact on credit requirements. No impact on efficiency and conservation until such time as actual hourly energy consumption can be measured.
Viewed as a permanent rate	City of Red Deer (no comments provided)				

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Viewed as a transitional rate to be phased out	Direct Energy (preferred choice of three proposed options)	Provides a wholesale market price signal that can be compared with competitive offers. Requires less prudential security than long-term hedged options, which reduces overall costs. Protects customers from wholesale market price spikes within a particular day or month. Allows for easy, low-cost transitioning of customers to competitive retail suppliers. The RRO program could be terminated with minimal cost.	Does not provide adequate compensation for risk. Does not fully reflect retail costs. Exposes customers to price volatility.	Familiarity breeds complacency and stagnation of policy and market development.	The rate provider carries the risk of consumption swings, and is compensated by the risk margin embedded in the rate. No impact on billing systems. No impact on credit requirements. Could encourage energy efficiency and conservation because consumers know the price of electricity before they use it. Could compete with term contracts offered by competitive retailers.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Short-term (monthly) hedge	AltaGas (proposed as one of two options; for procurement recommendations, see Table 21)	Reflects the volatile nature of the electricity market. Supports short-term wholesale market liquidity. Provides consumers with advance notice of the upcoming month's price.	Disparity of rate procurement processes among providers leads to a lack of transparency and understanding. Short-term, one-month-forward procurement is affected by continually changing supply and demand. Competitive suppliers are disadvantaged by their inability to collect deposits[17] and to cut off services for non-payment services.	One-month-forward procurement leads to price volatility. Disparity of rates across the province.	Incremental monthly procurement of fixed-price hedges accommodates consumption volume variances. Base each month's purchase volume on a current forecast of volumes for the required terms required. Accommodate consumption changes by ensuring that the prompt month volume constitutes at least 20% of the total.
Current RRO Design (with modifications)					
Redesigned to provide a measure of price stability	Atco (preferred choice of two proposed options)	Provides price stability. Sets a baseline against which competitive offers can be compared. Minimizes consumer confusion.	May delay consumer participation in the competitive market.	Less stable than fixed-price contracts, so may not offer enough price stability to meet consumer expectations.	Will accommodate swings in consumption volume. Minimal impact on billing systems. Minimal impact on credit requirements. Minimal impact on efficiency and conservation. Could delay full consumer participation in a competitive market.

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[17] Section 18.1 of the Energy Marketing and Residential Heat Sub-Metering Regulation allows "electricity marketers" to collect security deposits from consumers who have no credit history or poor credit, or whose previous electricity supply was cancelled for non-payment.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Redesigned to use long-term hedging	City of Calgary		Provides a stable, benchmark price that competitive retailers should be able to outperform.		Deferral accounts can accommodate swings in consumption volume. Minimal impact on billing systems. Minimal impact on efficiency and conservation.
Redesigned to extend the procurement window from 45 to 90 days	Utilities Consumer Advocate (proposed as one of five options; no preference stated)	Reduces price volatility, but only to a limited degree, so that risk-averse consumers still have an incentive to shop for a competitive that offers price stability. Maintains price fidelity, which means that the default price reflects the true market cost of electricity. Can be implemented with minimal administrative change.	Increases administrative costs, but reduces volatility only slightly.		Large unexpected swings in consumption are not likely to occur in the one-month procurement time frame. The risk of weather-related consumption swings or swings resulting from the entry or exit of consumers are covered by the provider's risk premium. No impact on billing systems. Credit requirements remain a function of the providers' expected financial obligations to meet its customers' needs. Could help to develop and sustain a competitive retail market.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Redesigned to extend the procurement window to 90 days, with rates set quarterly	Utilities Consumer Advocate (proposed as one of five options; no preference stated)	Reduces price volatility to a greater extent than 90-day procurement alone because price expectations are averaged and the rate is fixed for a three-month period. Preserves incentives for consumers who want more price stability to shop for competitive offers.	Reduces price fidelity. Consumers see a three-month average rather than the true market cost of electricity. Increases the volumetric risk for rate providers, which in turn increases prices. (Providers must purchase sufficient volumes for a three-month period, and more consumers can enter or exit regulated supply in three months than in one.) Overall, consumers gain a relatively small benefit in exchange for some increase in cost.		Large unexpected swings in consumption are not likely to occur in the one-month procurement time frame. The risk of weather-related consumption swings or swings resulting from the entry of exit of consumers are covered by the provider's risk premium. No impact on billing systems. Credit requirements remain a function of the providers' expected financial obligations to meet its customers' needs. Could help to develop and sustain a competitive retail market.

Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year[14]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts and Timing[15]
Phased out or redesigned to be less attractive	Atco (proposed as one of two options)	May increase retail competition and the diversity of contract offerings.	Forces consumers to choose a retailer. May be confusing for consumers.	Consumers may lack the knowledge they need to make an informed choice. Forcing choice may result in public backlash. If the transition period is inadequate, consumers may be confused.	The effect on consumption swings and credit requirements would depend on the design of the rate. Minimal impact on billing systems. Minimal impact on efficiency and conservation. Eliminating the RRO would allow the market to decide on energy efficiency and conservation. Could increase the sustainability of the competitive market.

Table 19. Proposed default rate design options for consumers of more than 250,000 kilowatt hours per year[18]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts
Pool price flow-through (current rate design for default supply)	AltaGas (one of two proposed options; for procurement recommendations, see Table 21)	Method is very transparent. Encourages demand response.	Not mandated, so some providers may use self-supply methods to retain regulated customers. Competitive suppliers are disadvantaged by their inability to collect deposits[19] and to cut off services for non-payment services. Does not contribute to wholesale market liquidity. Does not provide consumers with advance notice of the upcoming month's price.	Hourly pricing is volatile.	

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[18] Utility Network & Partners proposed three types of default rate, including two options for a transitional rate (described in this table) and options for "social program" and "supplier of last resort rates".

[19] Section 18.1 of the Energy Marketing and Residential Heat Sub-Metering Regulation allows "electricity marketers" to collect security deposits from consumers who have no credit history or poor credit, or whose previous electricity supply was cancelled for non-payment.

Table 19. Proposed default rate design options for consumers of more than 250,000 kilowatt hours per year[18]

Design Option	Proponents	Benefits	Weaknesses	Risks	Impacts
Pool price flow-through based on individual site consumption profiles; all other prudent costs approved by the Alberta Utilities Commission	AltaGas (preferred choice of two proposed options; for procurement recommendations, see Table 21)	The volatility of pool price provides an incentive to seek fixed-price supply from a competitive retailer.	Does not contribute to wholesale market liquidity.	None.	Since all consumption volumes are purchased at a flow-through of pool price, there is no need to forecast volumes to accommodate consumption swings. Restrict hedges to shorter terms (prompt-calendar-year or less) to avoid placing stress on default providers' credit capacity. Mandating hourly pool price flow-through provides incentives for energy conservation and demand response.

Options for Delivering a Default Rate

As shown in Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year and Table 19. Proposed default rate design options for consumers of more than 250,000 kilowatt hours per year, there are two main ways of delivering a default rate:

- pool price flow-through, in which the price paid by consumers is based on the actual hourly pool price and the consumer's actual or approximate hourly consumption
- forward contracts

In its submission to the Retail Market Review Committee, Epcor outlined a number of variations within each of these methods, and detailed the pros and cons of using these methods to design a default rate.

Table 20. Default Rate Alternatives Comparison

Alternative	A Forward Price	B Volatility	C Price Level	D True-Ups	E Other Considerations
Pool Price Flow Through					
1. Forecast Price	Yes	Higher	Lower	Yes	Currently provided by competitive retailers
2. Non-Forecast Price	No	Higher	Lower	No	Currently provided by competitive retailers
Forward Contracts					
3. 100% Month Ahead	Yes	—	—	No	
4. 50%/50% Blend Month Ahead and Longer Term Products	Yes	Lower	No change	No	
5. 100% Month Ahead with some true-up	Yes	No change	Slightly lower	Yes	
6. 50%/50% Blend Month Ahead and Longer Term Products with some true-up	Yes	Lower	Slightly lower	Yes	
7. Time of Use	Yes	Higher	Higher	No	Not feasible at this time

Source: Retail Market Review Committee Submission By Epcor Energy Alberta Inc. Epcor Distribution & Transmission Inc.

What time line is appropriate for implementing changes?

Question 9b): If changes to the default rate were recommended, what time line would be appropriate for implementing changes to the current RRO? (Ministerial Order 13e-iii)

Stakeholders offered a range of suggestions about when their proposed changes to the default rate should be implemented:

- The Alberta Urban Municipalities Association noted that changes to the RRO should be timed to coordinate with changes to other energy regulations that will expire in the next three years.
- AltaGas advised implementing changes as soon as rules could be defined and industry participants could make the necessary system changes.
- Atco suggested modifications to the RRO could be made immediately.
- The City of Calgary advised that the appropriate time line for design changes was a topic that should be discussed in a regulatory forum, and that no changes should be made until the expiry of the current regulation (June 30, 2014).
- Enmax recommended that, if the RRO was continued beyond the current expiry date (June 30, 2014), RRO providers' energy price setting plans should be immediately opened for review.
- Epcor noted that legislated default rate design changes could be implemented nine months after new regulations came into force. Ideally, the implementation date would be the start of the calendar quarter immediately following this nine-month period.
- Direct Energy noted that the appropriate timing would depend on the nature of the changes. The company suggested that if changes to default rate providers' energy price setting plans were needed, these should be timed to coincide with the expiry of the current Regulated Rate Option Regulation on June 30, 2014. Other changes could be made immediately.
- The Independent Power Producers Society of Alberta suggested that changes could be readily implemented within the existing RRO structure. IPPSA also recommended implementing a consumer education program to inform consumers about changes to the RRO and to help them understand the electricity market.
- Just Energy noted that the appropriate timing would depend on what option was chosen and what provisions were put into place. The company suggested a thorough study of transition processes in other markets where similar changes were made.
- The City of Lethbridge proposed that the changes it was recommending could be implemented immediately.
- TransAlta suggested that it would take three or four years to redesign or remove the default rate and to undertake an effective public education program.

What effects would a different rate design have on the competitiveness of the retail market?

Question 10: For each alternative default rate design described in your response to Question 9 (see p. 59)...d) How would the alternative design for a default rate affect the competitive retail market in terms of the following: i) the sustainability of the competitive retail market? (Ministerial Order 13e-ii-a)

Stakeholders offered a range of general comments on the effects of default rate design on market competition.

- AltaGas noted that the procurement of hedges in a transparent, competitive manner provides liquidity in the wholesale market.
- The Alberta Federation of Rural Electrification Associations observed that different default rate designs will affect retail market sustainability in different ways. Some designs may make retail contracts less attractive, some may increase risk factors, and some may allow retailers access to particular areas to sign up members.

- The Alberta Urban Municipalities Association said if the default rate becomes the price to beat, retailers will need to offer products and services that demonstrate the value of switching to competitive contracts.
- The City of Calgary noted that the Alberta market is small, and that the province might not be able to support a strong retail market without some form of incentives. The city did not feel customers should have to pay more for a competitive market.
- Just Energy suggested that designating a certain number of retailers as providers of last resort or requiring that current providers auction off their default rate customers would provide competitive retailers with a new customer base. Some of these customers could increase competitive retailers' bad debt risk.
- UtilityNet proposed that a default rate based on centrally procured supply that could be delivered by any retailer would substantially improve the competitive retail market. If the rate structure incorporated time-of-use metering so consumers could control their use of electricity when prices were high, this would increase the availability of competitive rates and encourage the development of new retail products and services.

> "The mass market retail or competitive market is well positioned to provide value added services including green energy, longer term price hedges, demand response, [and] integration of renewables. As such, the view of the CCA is while the RRO and mass market may compete for the same customers they do not offer the same product."
>
> —Consumers Coalition of Alberta submission to the Retail Market Review Committee

The responses of stakeholders who answered the question directly are included in Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year. Stakeholders were divided in their views of how a default rate design that included longer-term hedges (and therefore offered more price stability than the current RRO) would affect the sustainability of the competitive market. Constellation and Epcor believed such a rate design would have little or no effect. TransAlta suggested a default rate that included longer-term hedges could support the competitive market by providing a clear price to beat. On the other hand, by reducing price volatility, it could deter consumers from switching to competitive retailers.

Atco, Capital Power Corporation and Direct Energy believed a default rate with longer-term hedges would, in fact, impair the sustainability of the competitive market. Enmax stated such a rate would directly compete with fixed-price competitive contracts, which would hinder the growth of the competitive retail market. The Independent Power Producers Society of Alberta noted that if the default rate included longer-term hedges, customers would have less incentive to shop for similar products offered by competitive retailers.

Stakeholders were also divided in their opinions regarding the impact of a rate design (such as pool price flow-through) that increased price volatility. Enmax held that a default rate based on pool price flow-through would not affect the competitive market, but the company did not support this design option. Direct Energy, Capital Power and Enmax noted this type of rate design could compete with competitive retail offerings and affect the sustainability of the competitive market. Epcor suggested that a rate design that increased price volatility could have a positive impact by encouraging consumers to switch to competitive contracts.

The Utilities Consumer Advocate noted that default rate designs which only slightly reduce price volatility could help to develop and sustain a competitive retail market. Rate designs that offer consumers long-term price stability without the need to sign a contract could hinder market sustainability. A pool price flow-through-based default rate design that exposed consumers to extensive price volatility would best promote a sustainable competitive retail market. Such a design would also offer the cheapest supply because it carries no risk to the default supplier and therefore there is no risk premium.

> "Competitive retailers can offer a wide variety of products and bundles of products and services. The sustainability of the competitive retail market depends on the extent to which they offer products and services that consumers want."
>
> The value that a retailer can offer in a long-term fixed-price contract relates to price stability and price level, which is determined by the size of built-in risk premiums. Consumers compare the retailer's offers to the default price. The more volatile the default price is, and the higher its level, the more value the consumer derives from a competitive retail contract.
>
> "The ultimate sustainability of the competitive retail market" will depend on "retailers developing products and services that are attractive to consumers and that offer value propositions beyond those of the long-term fixed price contract."
>
> —Utilities Consumer Advocate submission to the Retail Market Review Committee

How would a different rate design accommodate a decreasing customer base?

Some default rate designs require providers to purchase long-term hedges to supply their customer base. But customers are free to leave default supply whenever they wish. If they decide to switch to competitive retailers, the default provider must cover the cost of the supply that had been procured for those customers.

In Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year, the Central Alberta, Lakeland, North Parkland Power and South Alta rural electrification associations, Direct Energy, Constellation Energy Commodities Group, the Independent Power Producers Society of Alberta, TransAlta Corporation and the Utilities Consumer Advocate and Alberta Association of Urban Municipalities noted that the default rate charged to customers must therefore include a premium that compensates for this risk. The Alberta Association of Urban Municipalities and the City of Calgary suggested that a deferral system could be used. The Alberta Federation of Rural Electrification Associations suggested using a balancing calculation.

Design Alternatives for Energy Procurement

Question 12: What alternatives are available for energy procurement, and which one is best (for example, long-term forward contracts, short-term forward contracts, flow-through of Pool Price)? (Ministerial Order 13e-i-a)

In general, stakeholders believed that energy procurement should take place through an open, competitive process in the forward market. A number of groups recommended that procurement methods should be standardized to increase transparency, reduce complexity, improve regulatory efficiency and reduce administrative costs. Several suggested that sound regulatory principles should be applied, but that regulatory oversight should be flexible and responsive to changes in the wholesale market.

Most stakeholders advocated the procurement of energy through blended portfolios that included both long- and short-term products.

Capital Power Corporation noted that long-term contracts are no better or worse than short-term contracts. Both are needed to balance risk and volatility.

Capital Power also noted that "the 'best' method of energy procurement is one that will provide the price signal reflecting the degree of volatility that the DOE [Department of Energy] wishes to deliver with the greatest accuracy possible. The desired degree of volatility will dictate the mix of hedged and month-ahead volumes that will need to be procured. In order to ensure an accurate price signal this requires both the long-term (hedged component) and near-term (month ahead) pricing mechanisms to allow participation by as many willing wholesale market participants as possible. Additionally, any portfolio mix of hedged volumes that fosters liquidity will inherently improve the validity of the price signal it delivers."

—Capital Power Corporation submission to the Retail Market Review Committee

Table 21. Proposed procurement design principles and electricity procurement models

	Principles and Practices	Procurement Models	Comments
Alberta Association of Municipal Districts and Counties		Procure a hedged portfolio that includes long- and short-term products.	
Alberta Federation of Rural Electrification Associations		Procure a hedged portfolio that includes long- and short-term products.	
Alberta Urban Municipalities Association		Procure long-term hedges (over three-year periods).	
AltaGas Ltd.	Set provincial standards to ensure transparent. consistent procurement processes for all default suppliers. Use transparent competitive hedge procurements to promote wholesale market liquidity.	For consumers who use more than 250,000 kilowatt hours of electricity per year, use pool price flow-through. For consumers who use less than 250,000 kilowatt hours, procure through a combination of prompt monthly, quarterly and prompt calendar year terms.	Procure hedges with terms that are long enough to smooth price spikes caused by short-term supply-and-demand anomalies, but short enough that consumers are not locked into prices for extended periods. Mandated pool price flow-through for large consumers prevent regulated suppliers from using self-supply to retain captive customers.
AltaLink		Procure a portion of supply through longer-term hedging instruments such as one-year-forward contracts. Continue to procure the balance through one-month-forward purchases. Extend the length of the procurement window.	

Table 21. Proposed procurement design principles and electricity procurement models

	Principles and Practices	Procurement Models	Comments
Atco (submission from Atco Electric; presentation by Atco Energy & Utilities, Atco Electric and Atco Power)			Once the purpose of the default rate is established, appropriate procurement plans and risk premiums can be designed and negotiated.
Capital Power Corporation	Implement competitive procurement through the wholesale market. Allow the participation of as many willing buyers and sellers as possible. Standardize procurement methods for all providers. Ensure that competitive procurement plans provide a price signal "that reflects the degree of volatility that the Government wishes to provide through the RRO." Ensure that the competitive affiliates of default rate providers compete on the same terms as other wholesale market participants, without the unfair advantage that advance knowledge of the timing, volume and "basis" of default supply-related procurement.	Procure month-ahead volumes through daily bids on the Natural Gas Exchange (NGX). Daily procurement allows the market to operate on the most accurate information. This makes it possible for the default rate to respond to changes in market price and limits the risk exposure of default rate providers. For 50% of the RRO supply, allow procurement through longer-term hedges of no more than one-year. Procure longer-term hedges through auctions coordinated by central clearinghouse agencies such as the NGX.	Standardizing procurement methods ensures that the default rate reflects market conditions. It also creates a level playing field for prospective wholesale suppliers of default rate-related volumes. It does not, however, create standardized prices for all default rate customers: customers in different regions have different load shapes. Procurement through the NGX is open to any party that has credit with the NGX. Bilateral agreements, on the other hand, are only available to parties that have established credit with the procuring entity. Parties that could not establish credit could be prevented from participating in the market, and competition would be reduced.
City of Calgary		Procure long-term hedges.	

Table 21. Proposed procurement design principles and electricity procurement models

	Principles and Practices	Procurement Models	Comments
City of Lethbridge		The city's preferred procurement model includes hedging up to 50% of its required supply for up to three years, hedging 30-40% for shorter terms and ensuring that no more than 30% of its hedges expire at the same time.	Under the current market design, the power pool is the only viable option for procuring a physical supply of energy. A degree of price certainty can be achieved through a blended portfolio of hedges with varying terms, but this is not allowed under the current Regulated Rate Option Regulation.
City of Red Deer	Procure energy through a central procurement agency or through a retail supplier selected through a competitive request-for-proposals process.		
Constellation Energy Commodities Group		Procure energy through a blended hedge portfolio that includes short- and long-term products for three-month to two-year periods.	
Consumers' Coalition of Alberta	Ensure flexibility of procurement and flexible regulatory oversight that is responsive to changes in the wholesale market.		Allow deferral accounts for the flow-through of procurement costs such as costs related to the wind-up of hedges, RAM (retail adjustment to market) charges and uplift costs.
Direct Energy		Direct Energy discussed a number of procurement methods, but did not state a preference. For details, see Table. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year4.	
Enmax Corporation	Use a standard procurement methodology in energy price-setting plans.	Procure energy through 100% month-forward hedges. Determine price in reference to a daily market index price (such as the NGX price). This maximizes market liquidity and provides strong, direct, uniform incentives for default rate providers to procure energy at the lowest possible price.	In combination with a standardized procurement methodology, the continuation of one-month-forward contracts "best supports the goal of full reliance on competitive retailers to provide electricity to consumers. In addition, it is a proven framework with which market participants are familiar".

Table 21. Proposed procurement design principles and electricity procurement models

	Principles and Practices	Procurement Models	Comments
Epcor		Procure 50% of energy requirements through one-month-forward hedges. Procure 50% through a combination of quarterly, semi-annual and annual hedges. Extend the procurement window to 90 days.	
Independent Power Producers Society of Alberta			Procurement of forward contracts is preferable to pool price flow-throughs with post-period true-ups.
Industrial Power Consumers Association of Alberta	Minimize political risk. Minimize negative consequences for the wholesale market.		ISPSAA members held a variety of viewpoints on preferred procurement models for default service, and there was no consensus on whether a default service was needed at all.
Just Energy Alberta		Procure energy through 100% month-forward hedges.	"The best procurement strategy for the default rate is 100% month ahead because it is reflective of current market pricing".
Spark Power	Procure energy through a centralized, non-governmental agency such as the Balancing Pool. Authorize the Alberta Utilities Commission to review and approve the agency's procurement approach. Procure energy through a single provincial auction process. Allow flexibility in purchasing and developing energy portfolios.	Procure energy through a balanced wholesale portfolio that includes energy volumes hedged for a variety of staggered terms. Hold frequent auctions to support wholesale market liquidity and give providers the opportunity to compete on a range of terms and volumes.	The Balancing Pool is an appropriate implementing agency because it already manages auction processes and has no industry governance or oversight role.
TransAlta Corporation		Procure energy through 100% month-forward hedges.	

Table 21. Proposed procurement design principles and electricity procurement models

	Principles and Practices	Procurement Models	Comments
Utilities Consumer Advocate	Fairness to consumers. Simplicity. Transparency. Ease of implementation. Consumers pay the full cost of electricity. Minimize the delivered price.	Procure energy through the forward market. Standardize procurement methods. Have all default rate providers base their prices on a single market-based index. Implement a 60-day price setting period "based on an average-average final price for a monthly product." The Utilities Consumer Advocate discussed a number of procurement methods, but did not state a preference. For details, see Table 18. Proposed default rate design options for consumers of less than 250,000 kilowatt hours per year.	Procurement in the forward market preserves the liquidity of this market and allows consumers to know the price of energy before they consume it. Standardized procurement methods support transparency and ensure that consumers across the province pay the same rate for energy. Index-based pricing is simple and transparent, allowing consumers to see the various individual price components. No billing system changes are required.
Utility Network & Partners Inc. (representing Adagio Energy, Bow Valley Power, Brighter Futures Energy, E NRG, Milner Power, Mountain View Power, Spark Power, Spot Power and Vector Energy)	Standardize and streamline the procurement process. Option 1: Manage energy procurement through a single aggregator such as the Balancing Pool. Option 2: Implement spot market flow-through in conjunction with a true-up process.		
West Wetaskiwin Rural Electrification Association		Procure 20-30% of supply through the power pool. Use forward contracts for 70-80%.	

Forward purchasing and market liquidity

Question 14: If forward purchasing is recommended, is there adequate liquidity in the forward markets to lead to competitive outcomes? (Ministerial Order 13e-i-b)

Stakeholders who answered this question were divided about whether the forward market was sufficiently liquid to deliver competitive prices.

The majority of stakeholder groups who commented believed the forward market was sufficiently liquid. These included the Alberta Federation of Rural Electrification Associations, the Central Alberta, Lakeland, North Parkland Power and South Alta Rural Electrification Associations, the Alberta Urban Municipalities Association, Atco, Capital Power Corporation, Constellation Energy Commodities Group, Epcor (and FortisAlberta), the Independent Power Producers Society of Alberta and the Utilities Consumer Advocate.

The City of Lethbridge noted that the sufficient liquidity was available for its purposes, but that it could not comment on the market as a whole. The City of Calgary also noted that it did not have sufficient information to make a judgment.

> "A market will always provide competitive outcomes."
>
> — Independent Power Producers Society of Alberta submission to the Retail Market Review Committee

A number of stakeholders expressed concerns about the liquidity of the forward market:

- Direct Energy believed forward market liquidity had declined when the default rate moved to full month-ahead pricing, and that economic withholding in the Alberta market could prevent a return to previous liquidity levels.
- The Consumers' Coalition of Alberta noted that while there had been periods of liquidity in the past, the forward market was currently rather liquid, and there was no guarantee that liquidity levels would remain adequate in the future.
- The Industrial Power Consumers Association of Alberta stated that the lack of liquidity in the forward market was a serious issue that—if not resolved—would pose an obstacle for default supply processes.
- Just Energy suggested that the market was not sufficiently liquid and that this created supply-management challenges for competitive retailers.
- TransAlta Corporation observed that there was anecdotal evidence of a lack of forward market liquidity. Additional liquidity could be attained in two ways: by phasing out the Regulated Rate Option, or by increasing the term.

Stakeholders offered the following general comments about liquidity:

- AltaGas suggested the liquidity of the forward market would increase if the default rate procurement process included a combination of prompt month, quarterly and prompt-calendar year hedges.
- Enmax Corporation noted that forward market liquidity was determined by a number of factors, including the design of the default, market rules for the power pool and Alberta's overall market structure. Ensuring the rules support broad participation in the Alberta market and that market outcomes reward suppliers for transacting ahead of real time are the best ways of sustaining liquidity.
- The City of Calgary expressed concern that the legislated procurement methodology for the Regulated Rate Option could be a cause of liquidity issues because sellers could have an advantage. Because sellers know RRO providers have to buy each month, within a specific time period, they might adjust their prices accordingly.

Centralized procurement

A number of stakeholder groups proposed that the energy needed to supply customers on the default rate should be centrally procured.

- AltaGas proposed that a cost benefit analysis should be undertaken to determine whether the procurement function should be centralized.
- The City of Red Deer suggested energy should be procured by a central procurement agency or by a retail supplier selected through a competitive request-for-proposals (RFP) process.
- Spark Power suggested energy procurement could be managed by distribution system owners or by a central, non-governmental agency such as the Balancing Pool. A central agency could develop a wholesale portfolio that included energy volumes hedged for a variety of staggered terms. All retailers could offer this product under standard terms and conditions that made the same standard rate available to all consumers. Spark Power noted that centralized procurement had several advantages. Centralized procurement:
  - gives all consumers access to the same stable price
  - makes it possible for all retailers to offer a standard stable rate as a reference price or price to beat
  - levels the playing field for small retailers
  - supports the development of locally based, environmentally friendly sources of generation that could reduce consumer costs.
- UtilityNet believed energy procurement should be managed by a single aggregator such as the Balancing Pool, and purchases should be standardized and streamlined.
- The City of Lethbridge proposed that, unless the default rate was redesigned to provide the stable prices citizens of Lethbridge want, responsibility for all aspects of the default rate—from procurement to customer service and billing—should be permanently transferred to a centralized, independent default supplier accountable to the Alberta Utilities Commission.

The Consumers' Coalition of Alberta agreed that the concept of central procurement could have merit, but was concerned that the cost of creating a central procurement agency might outweigh the benefit. The CCA cautioned against procurement through competitive retailers since the tendency to "avoid costs and maximize return...may be inconsistent with provision of a default rate or the role of supplier of last resort".

Capital Power Corporation was strongly against centralized procurement for the following reasons:

- Centralized procurement requires regulatory change, but does not improve efficiency. Distribution system owners have the experience and infrastructure to procure energy and deliver the default rate in their service areas, and there are no efficiencies to be gained from centralizing these services.
- Centralized procurement and delivery could create market power disparity and affect the investments electricity distributors have made to deliver default services. If the default rate provider was a generator who could self-supply rather than trading in the market, centralized procurement could also reduce market liquidity.

Enmax Corporation also opposed centralized procurement, noting that different areas of the province have different characteristics and therefore different risks that affect the cost of procurement. The differences between service areas result from rural-urban demographics, the residential-commercial customer mix and region-specific load shapes. Separate procurement has no negative effect on the market, nor is it inconsistent with the principles of fairness, efficiency and open competition. Centralized procurement, on the other hand, may decrease market liquidity and increase the predictability of the procurement process.

Who should provide the default rate?

Question 8: What is the best delivery mechanism for a default rate? Who should provide it? Please provide specific comments on billing, procurement and any other relevant aspects of delivering the default rate. (13d-v)

A retailer or distribution system owner that supplies electricity to a customer who pays the default rate (the RRO) is said to be "providing the rate" or "delivering the rate."

Distribution system owners

Most stakeholders believed the default rate should be delivered by distribution system owners. They offered the following reasons:

- Distribution system owners have the experience and infrastructure (including procurement and billing systems) to deliver the default rate in their designated service areas. Reassigning these responsibilities would require significant changes to the regulatory framework, and could leave distributors with stranded costs related to investments they made to meet their legislated obligations.
- Distribution system owners have the flexibility and authority to contract with other parties to provide default services on their behalf.
- Distribution system owners have the knowledge and infrastructure needed to deal with complex billing issues which arise when there is no customer of record. They also have well-established processes for managing service cut-offs for non-payment and for salvaging sites.
- Distribution system owners have an obligation to provide services to customers who have not chosen a retailer, and should therefore have the right to determine how they will manage their commodity risks and procurement functions.
- Distribution system owners do not compete with other suppliers, so conflicts of interest will not arise.
- There are no efficiencies to be gained from centralized procurement or delivery.
- Consumers trust their utility company.
- The current system works well.
- Shifting responsibility to another party would incur costs related to metering, billing and settlement.

> "The best delivery mechanism for a default rate would be a retailer who has experience with the required interfaces and systems to efficiently service the customer base."
>
> —Direct Energy Marketing Limited submission to the Retail Market Review Committee

Retailers

Direct Energy (the RRO provider for Atco, through Direct Energy Regulated Services) suggested the best delivery mechanism for a default rate was an experienced retailer with efficient systems and interfaces for serving customers.

The joint submission from the Central Alberta, Lakeland, North Parkland Power and South Alta Rural Electrification Associations noted that simplification and standardization of the default rate structure would make it possible for players other than distribution wire owners to provide default service. They offered one caution: while a competitive process could be used to select the lowest-cost retail supplier, the current lack of data standardization across service areas would counter any efficiencies that could be gained from having a single supplier. A province-wide standard for billing, administration and overhead costs could address this issue.

Spark Power suggested that if terms and conditions were standardized, all retailers could deliver a default rate option that gave all consumers access to the same stable rate.

The West Wetaskiwin Rural Electrification Association proposed that all major retailers could deliver a default rate.

UtilityNet and Spark Power proposed that all retailers should have the option of providing the default rate to consumers. This would require the elimination of the service areas traditionally controlled by distribution system owners. UtilityNet suggested rural electrification associations should retain their current privileges, and municipalities and distribution system owners should continue to serve as providers of last resort. They should also provide a special default rate designed to address social issues.

The Utilities Consumer Advocate proposed that having competitive retailers provide default supply could enhance the competitiveness of the retail market in four ways.

- It could give retailers an opportunity to achieve economies of scale that would allow them to lower costs and serve customers more efficiently.
- It could mitigate the "stickiness" (unwillingness of customers to switch to a retail electricity provider) and status quo bias.
- It could ensure that price of default supply reflected market prices and appropriate risk premiums.
- It could allow distribution system owners to focus on their core business

Other

The City of Red Deer suggested that energy procurement and retailing were outside the core business of electricity distributors, meaning these services were often provided by contracted third parties. Alternative approaches could ensure consistency across the province. Suggested alternatives include energy procurement through a central agency or use of a competitive, request-for-proposals process to select a retail supplier who would provide a default rate.

Atco noted that distribution system owners no longer have the capacity and skills to provide the RRO, and have contracted other companies to provide this service on their behalf. Given this situation, Atco advised that the government should revisit distribution system owners' legal obligation to provide the RRO.

The City of Lethbridge, as a municipal utility, has the obligation to provide default service for its citizens according to the terms of the Regulated Rate Option Regulation. This requirement places the city in a position that conflicts with its broader mandate to provide public services for the public good. The city believes most of its default rate customers prefer a stable price that avoids extreme highs, even if that means forfeiting the ability to take advantage of extreme lows. Providing a stable price would be possible if the rate reflected actual commodity costs and included longer-term hedges. If this were the case, Lethbridge would be "adept, willing, and capable of being responsible for the default rate." The city is much less comfortable offering a default rate that is not stable, which current legislation compels it to do. "[I]f the provincial policy does not allow for a stable default rate, then the City advocates for permanently transferring all responsibility to a centralized, fully independent, and fully functioning default supplier".

Who should procure energy for customers on the default rate?

Question 13: Which organizations are best suited to procure energy to serve customers on a default rate (for example, the distribution company, a designated regulated rate provider for each service area, a competitive retailer who was successful in an RFP, a central procurement agency)? (Ministerial Order 13e-i-a)

For stakeholder opinions on centralized procurement, see p. 356.

Distribution system owners

The majority of stakeholders believed energy for default rate customers should be procured by distribution system owners. They offered the following reasons:

- Distribution system owners have the flexibility and authority to contract other parties to provide default services on their behalf.
- Distribution system owners are familiar with the electricity needs in their service territories.
- Distribution system owners assume commodity risks on behalf of their customers, and should therefore have the right to determine how these risks and the related procurement decisions are managed. Each owner's unique structures, risk tolerances and resource capabilities are key considerations in managing energy procurement.

> "Any change from the status quo should only be undertaken following a comprehensive cost/benefit analysis, including a determination if there are any new stranded costs and/or start-up feeds associated with a new procurement tool."
>
> —Independent Power Producers Society of Alberta Submission to the Retail Market Review Committee

Owners or Retailers

TransAlta Corporation proposed that distribution companies or competitive retailers were best suited to procure energy.

Retailers

The West Wetaskiwin Rural Electrification Association proposed that energy should be procured by competitive retailers.

The Utilities Consumer Advocate suggested economies of scale could be achieved if the same entity both procured and provided default supply. UCA recommended that competitive retailers be responsible for both procurement and provision of the default rate. Alternatively, procurement could be handled by distribution system owners or by a central procurement agency.

Atco suggested that the government should revisit distribution system owners' legal obligation to provide the RRO. Atco proposed that an appropriate time to shift responsibility to a single retailer would be when less than 20% of eligible customers remained on the default rate.

Other

FortisAlberta and Just Energy suggested that energy should be procured by a designated regulated rate provider in each service area.

The City of Red Deer noted that energy procurement was not a core business function for distribution wire owners.

The City of Lethbridge proposed that, unless the default rate was redesigned to provide the stable prices citizens of Lethbridge want, responsibility for all aspects of the default rate—including procurement—should be permanently transferred to a centralized, independent default supplier accountable to the Alberta Utilities Commission.

Which customer groups should have access to a default rate?

Question 5: Which customer groups (for example, residential, farm, irrigation, small commercial, large industrial) need access to a default rate? (Ministerial Order 13d-ii)

Stakeholders also addressed the issue of who should have access in their responses to other questions, including the following:

> *Question 3: If it were determined that a default rate was no longer required for some or all eligible customers b) what would be the benefits, weaknesses and risks of phasing out the existing RRO? (Ministerial Order 13c)*
>
> *Question 15: Who are "vulnerable Albertans" in the context of the retail electricity market? (Ministerial Order 13e-iv)*

Under the current legislation, all residential, farm and irrigation customers and all small commercial and industrial customers who consume less than 250,000 kilowatt hours of electricity per year are eligible for a default rate called the "Regulated Rate Option" or RRO. Industrial and commercial customers who consume more than 250,000 kilowatt hours of electricity per year are eligible for default supply, not the RRO.

Stakeholders expressed a range of opinions about which customer groups should have access to a default rate. Some groups addressed the question in terms of electricity usage, while others answered in terms of customer classes. Some addressed both usage and customer classes in their responses.

The Industrial Power Producers Society of Alberta cautioned that decisions about lowering the threshold or excluding certain classes of customers should only be contemplated after a cost benefit analysis, and could only be implemented once a transition plan had been designed and an education program developed for customers who would be affected. TransAlta concurred that appropriate public education and transition planning were required. The Alberta Association of Municipal Districts and Counties noted that any changes to the current 250,000 kilowatt hour threshold should take into account the impact on farmers—particularly farmers who rely on irrigation and other power-intensive farming operations.

Usage thresholds

In general, stakeholders who addressed the question in terms of electricity usage felt the default rate should serve consumers of less than 250,000 kilowatt hours per year. Some groups—including Atco, Epcor, FortisAlberta, TransAlta Corporation, the City of Lethbridge and the Utilities Consumer Advocate—suggested the current threshold might be too high.

- The Utilities Consumer Advocate proposed reducing the threshold to 50,000 kWh or lower. This would make the default rate available to residential consumers, small farmers and small businesses. Large commercial and industrial customers, large farmers and large irrigation customers "should have the motivation and resources to shop for electricity supply and should not need access to default rate supply." In addition, allowing large customers to switch to or from default supply increases the suppliers' volumetric risk, which is a cost all default supply customers must share.

> "Default supply is a form of consumer protection." It ensures that all consumers who do not choose an alternative supplier have a rate that is fair and that reflects the true cost of their electricity supply. "Because it is a form of protection, consumers are generally allowed to leave or return to it at will"
>
> —Utilities Consumer Advocate submission to the Retail Market Review Committee

- Epcor suggested that a default rate should continue to be made available on the basis of both consumption thresholds and customer classes, but that the consumption limit should be reduced from 250,000 to 50,000 kilowatt hours per year. (Consumers of less that 50,000 kWh constitute 98.4% of Epcor's current RRO customers.)
- The City of Lethbridge suggested analyzing the usage

levels of small, RRO-eligible commercial customers that had switched to competitive retail contracts. If their usage is near the 250,000 kWh a year, it may be feasible to reduce the threshold: "there may be intangible benefits for both the default rate provider and its customers if the...provider can focus on providing service to a more homogeneous group of customers".

- TransAlta suggested reducing the threshold to 100,000 kWh.
- Atco noted that switching statistics for commercial customers who qualify for the RRO are higher than for residential or farm customers. Lowering the 250,000 kWh threshold could encourage more commercial customers to switch—until the point when the RRO for this customer class was no longer needed.
- Enmax Corporation also pointed out the relatively high switching rates of small commercial customers, and suggested that these consumers could be adequately served by the retail market and did not require a default rate: "small business owners routinely manage a wide variety of business costs and can manage electricity costs similarly".

The Alberta Association of Municipal Districts and Counties, the City of Calgary, Constellation Energy Commodities Group and the Consumers' Coalition of Alberta believed the status quo was appropriate, meaning the default rate should serve residential, farm, irrigation and small commercial customers who use less than 250,000 kilowatt hours of electricity per year. The Consumers' Coalition of Alberta noted that the current 250,000 kWh threshold was appropriate, but it would not oppose any customer group having access to a default rate.

Consumer types and classes

Direct Energy advised doing away with consumption thresholds and restricting the default rate to residential and farm classes; AltaLink and the West Wetaskiwin Rural Electrification Association also believed that only residential and farm customers should have access to the default rate. Just Energy proposed that residential, farm and small commercial consumers should have access to a default rate. UtilityNet suggested that residential, farm and irrigation classes should have access to a default rate, but only as a transitional measure while a deregulated market is established.

Stakeholders offered the following additional comments with regard to consumer classes:

- The Industrial Power Consumers Association of Alberta and Spark Power suggested that it was possible that all customer classes might need access to a default rate, but that most non-residential, non-vulnerable customers probably had the information and skills needed to choose a retail electricity provider.
- The Alberta Urban Municipalities Association noted that all customer classes except large commercial and industrial groups need access to a default rate.
- The Alberta Federation of Rural Electrification Associations said that all consumers who cannot buy electricity directly from generators should have access to a default rate.
- Constellation Energy Commodities Group stated that all consumers who cannot or choose not to select a retail electricity provider should have access to default service. Some members of the Industrial Power Producers Society of Alberta also held this viewpoint; others proposed that no customer group needed a default rate and that the RRO should be phased out over time.
- Spark Power proposed that the default rate should be available to consumers who have bad credit and therefore cannot purchase electricity from retailers. Retailers must have the right to terminate contracts with customers who do not pay their bills, and some means of supplying electricity to these people is needed. Spark Power also noted that residential customers should be the primary target for a default rate, but that business customers might need a default rate in the short term or as an interim measure while switching retailers.
- The Central Alberta, Lakeland, North Parkland Power and South Alta rural electrification associations proposed that the default rate should only be available to new customers who have not had the opportunity to research and choose a retailer and to customers who have bad credit (and therefore cannot access retail contracts).

- FortisAlberta advised that administrative costs could be reduced if the consumption threshold for default service eligibility aligned with distribution tariff rate classes.

Large consumers

Most stakeholder responses to this question dealt with RRO-eligible consumers. In general, stakeholders who commented on default rates for other consumers believed large commercial and industrial consumers could manage their energy costs through the wholesale and retail markets and did not need a default rate.

> "The use of consumption thresholds to determine customer eligibility acknowledges that...magnitude of consumption is correlated to a customer's ability to research, analyze and comprehend the electricity product offering alternatives available to them, and to make energy consumption decisions and change their consumption patterns and behavior. Smaller customers...have limited ability to analyze and change their consumption patterns, and are far more likely to be vulnerable or credit challenged. Larger customers, including irrigation customers, have the ability to research, analyze, comprehend and shift energy consumption costs by changing their consumption patterns and behavior primarily due to the fact that larger customers are businesses".
>
> —Epcor submission to the Retail Market Review Committee

Epcor and Enmax Corporation suggested that small commercial customers were also capable of managing their energy costs and did not need a default rate.

AltaGas proposed that consumers of more than 250,000 kWh should be eligible for a rate based on a flow-through of pool if they were connected to a distribution system. Consumers who are directly connected to a transmission system should not have access to a default rate.

What should the default rate be called?

Question 6: What should the default rate be called? What name would most clearly communicate to customers the purpose and intent of the default rate? (Ministerial Order 13d-iii)

The range of proposed name options is presented in Table 22. Proposed names for the default rate.

Several stakeholder groups felt the word "regulated" should not be included in the name because it confuses customers about what the rate is for and how it is set. Calling the rate "regulated" suggests government involvement when the reality is only the procurement process, profit margins, risk margins and service costs are regulated. The energy component, which constitutes most of the bill, reflects the deregulated wholesale electricity price. It implies a degree of oversight and traditional cost-of-service utility pricing, and may discourage customers from seeking "unregulated" competitive contracts.

In general, stakeholders advocated a user-friendly name that clearly conveys the purpos of the rate. Some suggested that the name should emphasize the default or non-contract-based aspect of rate. Some recommended that the name should indicate that the rate is a transition that customers default to if they do not select a competitive rate.

Table 22. Proposed names for the default rate

Basic Electricity Regulated Supply
Basic Energy Service
Default Rate
Default Monthly Market Rate
Default Service Pricing
Electricity Default Rate Tariff (to parallel the natural gas Default Rate Tariff)
Last Resort Rate
Monthly Default Market Rate
Regulated Energy Rate Provided by (*name of the incumbent owner*)
Regulated Flow-Through Rate (if flow-through was the chosen approach and the rate was redesigned to provide price stability)
Regulated Rate Option (RRO)
Social Program Stable Rate
Stable Rate Option
Standard Rate Offering
Supplier of Last Resort Rate
System Supply Rate
Transitional Rate or Transitional Rate Option
Utility Supply Rate
Variable Basic Rate
Variable Standard Rate

What costs should be included?

Question 11: Which costs, in addition to the pure energy cost, should be included in the default rate (for example, billing, administration, risk margins)? (Ministerial Order 13d-xi)

Most stakeholders who responded to this question agreed that the default rate should include all reasonable costs incurred in providing default rate services. (For additional details, see Table 17. Proposed design principles for a default rate3 on p. 310.) The City of Calgary suggested that cost-related discussions were best left to the Alberta Utilities Commission, and that consumers might prefer to use deferral accounts to deal with risk issues rather than including risk margins in default rates.

Stakeholders identified a range of risks and costs that should be included in the default rate:

- a fair profit margin
- risk margins to cover the following risk categories
  - administrative risk, including credit risk, settlement-related risk, and risk, including risks related to cost recovery and risk of errors
  - commodity risk, which occurs when the actual hourly volumes used by customers do not match the underlying blocks of energy used to hedge those volumes
  - volume risk, which results from variability in consumers' energy consumption and hourly variations in the pool price
  - the risk that colder or warmer than expected weather will affect demand
  - price risk, which results from price volatility within a month
  - the risk that suppliers will not meet their contractual obligations and that replacement supply will need to be found
  - the risk that the cost of credit will increase
  - load settlement-related risk
  - billing-related risks
- trading, procurement, customer service and

management costs, including the following

- administrative costs
- risk management costs
- credit costs
- costs related to the development, implementation and administration of energy price-setting plans
- costs related to regulatory approval and compliance
- costs related to monitoring and performance standards
- procurement and procurement management costs
- trading costs, including NGX trading costs, power pool trading charges, and financial security posted with the Alberta Electric System Operator
- load settlement-related costs, including the costs of unaccounted-for energy, line losses and uplift costs (paid to generators dispatched when the hourly pool price is lower than the generator's offer price)
- retail adjustment to market (RAM) costs that result when errors are corrected after final settlement
- billing costs
- customer care-related costs, including the cost of identifying customers when appropriate information is not provided
- costs associated with customers' bad credit and expected bad credit, including the cost of collections
- income taxes and costs related to the Payment In Lieu of Tax Regulation
- bad debt

Two stakeholders mentioned the cost of acquiring customers. Direct Energy said this cost should be included in the default rate; Epcor said it should not.

Epcor and Enmax Corporation proposed that non-energy costs (such as the cost of bad debt and the costs of billing and customer care) should continue to be billed separately, as administrative charges, so consumers have an accurate commodity price signal .

Just Energy suggested that the costs of billing, administration and bad debt should be included in the default rate, and proposed that the default rate provider should pay these costs to the competitive retailer that bills customers on the provider's behalf. Currently the competitive retailer absorbs these charges "with no contribution to costs paid by the regulated retailer."

The Industrial Power Consumers Association of Alberta stated that the default rate should not include costs that could be interpreted as promoting government objectives such as encouraging retail competition, promoting renewable energy sources, educating consumers or encouraging demand response.

The Independent Power Producers Society of Alberta stated that the default rate should not be subsidized or it would compete, unfairly, against competitive retail offerings.

What is the most efficient way to ensure customers are effectively represented when rates are set?

Question 17: What is the most efficient way to ensure that the interests of Alberta's retail electricity customers are effectively represented when rates are set? (Ministerial Order 13e-v)

Stakeholders offered a variety of opinions. Many expressed support for the organizations that currently play a role in regulation and rate-setting —the Alberta Utilities Commission, the Market Surveillance Administrator and the Utilities Consumer Advocate.

- Many stakeholders—including Atco, Capital Power Corporation, Constellation Energy Commodities Group, FortisAlberta, the Independent Power Producers Society of Alberta, the Industrial Power Consumers Association of Alberta, UtilityNet, and the West Wetaskiwin Rural Electrification Association—recommended that the Alberta Utilities Commission should continue to oversee rate proceedings and approve service standards for default rate providers.

"The most efficient and effective way to ensure that the interests of Alberta's retail customers are met is through...freely negotiated competitive retail contracts. However, if a default rate is maintained, the most effective way to ensure that the default rate is consistent with the interests of retail customers is through the current process which requires approval of the EPSPs [energy price-setting plans] by the Alberta Utilities Commission".

—Enmax Corporation submission to the Retail Market Review Committee

"The UCA has observed and supports continuing efforts on the part of government and the AUC [Alberta Utilities Commission] to improve the efficiency of the regulatory process, with the objective of reducing the overall cost of electricity service to consumers."

—Utilities Consumer Advocate submission to the Retail Market Review Committee

- The Alberta Federation of Rural Electrification Associations (AFREA) suggested that, for general tariff applications presented to the Alberta Utilities Commission, its members were most effectively represented through intervention by AFREA and the Utilities Consumer Advocate. AFREA noted that the intervention process was most effective when there was a close relationship between rate setters and consumers.
- Several groups felt the Utilities Consumer Advocate should be involved, and that it was important to ensure the UCA had sufficient funding and expertise to defend consumers' interests.
- Capital Power proposed that the Utilities Consumer Advocate is best positioned to represent customer interests at rate hearings, and that the Market Surveillance Administrator (MSA) is best positioned to ensure that the procurement of electricity for the default rate follows the principles of fair, efficient and open competition. AltaGas also stated that the UCA and MSA have a role, as do the Alberta Utilities Commission and the Government of Alberta.
- Direct Energy felt the best interests of consumers are served by a robust competitive market. If a default rate is needed, consumer interests are well represented by the Utilities Consumer Advocate and the Government of Alberta, which set policy in the public interest.
- Just Energy proposed that the Utilities Consumer Advocate, Service Alberta and competitive retailers had a role in representing consumer interests.
- The City of Lethbridge noted that its electricity distribution tariff and RRO rate were approved by City Council, which is responsible to the electorate. In addition, the citizens of Lethbridge have the opportunity to attend and participate in regular public forums that address consumer issues. The process works well, but may not be transferrable to other situations.
- The Alberta Association of Municipal Districts and Counties noted that a good way of ensuring that the interests of a particular group were represented was to include that group in rate-setting proceedings.
- The Central Alberta, Lakeland, North Parkland Power and South Alta rural electrification associations suggested that consumers whose electricity is provided by competitive retailers have no interest in rate setting. Consumers who pay the regulated default rate lack knowledge and understanding of how the deregulated electricity market works, and therefore could not define their wants and needs nor advocate on their own behalf. Even if professionals were to represent them, they would still need to understand the deregulated market before they could define their collective needs and form opinions about rates.
- Capital Power Corporations concurs, in part, with the observation made by the REAs listed above: when determining the default rate, "it must first be established what the interests of Alberta's retail electricity customers are."

Protecting Vulnerable Albertans

Which consumers should be considered vulnerable?

Question 15: Who are "vulnerable Albertans" in the context of the retail electricity market? (Ministerial Order 13e-iv)

Stakeholders identified a number of categories of vulnerable Albertans:

- low-income and fixed-income Albertans who have trouble coping with price volatility and cost increases
  - Specific groups including seniors, people with disabilities, people who depend on social assistance, students, new immigrants, transient workers, not-for-profit organizations and low-income families.
- Albertans who—for financial or other reasons—struggle to keep up with their monthly bills, including gas and power bills and with other household necessities. (These are people who cannot pay and who need social support to manage, not people who simply choose not to pay.)
- farmers
- Albertans who have poor credit histories and do not qualify for competitive retail service agreements[21]
- Albertans who remain apathetic about understanding their electricity options[22] or who struggle to understand the utility industry[23] or electricity service agreements[24]

> "Some of Alberta's vulnerable residents include individuals at or below the poverty level [who are] struggling to make ends meet...[and spending] a significant portion of the household income... on energy bills. Some examples might include individuals who are newly unemployed, individuals who are experiencing temporary or permanent economic hardship, individuals with health concerns, seniors on a fixed income where sufficient funds are not available and new residents struggling to cover deposit fees for energy."
>
> —Just Energy Alberta submission to the Retail Market Review Committee

The Alberta Federation of Rural Electrification Associations proposed that any consumer can be vulnerable: vulnerability is related to an individual's financial situation and to threats to health and well-being.

The Utilities Consumer Advocate suggested that consumers can be vulnerable if they have difficulty accessing the information they need to make good purchasing decisions or if making inappropriate purchasing decisions exposes them to "a greater loss of welfare than other consumers". The UCA noted that, compared to the average household, low-income Albertans spend a larger proportion of their household income on electricity. Given the same size of dwelling and the same energy usage, a low-income household spends 5.8% of its budget on electricity, while an average-income household spends only 1.8%.

Epcor cautioned that vulnerable customers can only be identified on an individual level, not a group level. Customers on small fixed incomes aren't necessarily those who don't pay their power bills or don't understand how to ensure access to electricity services.

AltaGas noted that commercial and industrial customers cannot be considered vulnerable.

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[21] In early 2012, the Energy Marketing and Residential Heat Sub-metering Regulation was amended to allow retailers to collect security deposits from customers with poor credit. This makes it possible for such customers to enter into competitive agreements for electricity services.

[22] 4 REAs

[23] EPCOR

[24] IPPSA, CCA

ALBERTANS IN NEED

Direct Energy offered a case study that illustrates some of the challenges in identifying and assisting vulnerable citizens who need help to pay their electricity bills and avoid collection agencies and service disconnection.

"Vulnerable Albertans"...experience difficulty in meeting their monthly obligations.... While the difficulty these customers face presents as financial, there may be other underlying causes. One of the hurdles for service providers is in...[distinguishing vulnerable Albertans] from customers who simply choose not to pay. Service providers are not equipped to identify these customers...[or] to identify the root causes of...financial difficulties. The preferred route is for...[vulnerable Albertans] to 'self-identify' and seek assistance from appropriate government or non-government agencies. Currently, there are processes in place at DERS [Direct Energy Regulated Services] to offer customers tailored payment options as well...contact information for social agencies.

Direct Energy and Enmax noted that 2011 changes to utility disconnection practices have helped retailers identify and protect vulnerable Albertans. By November 1 of each year, retailers must identify and contact customers whose electricity services have been disconnected in order to resolve the situation and arrange for reconnection during the winter months. Retailers refer these customers to the Utilities Consumer Advocate and other support agencies that can provide assistance and facilitate reconnection. Retailers are also permitted to provide basic information to disconnected customers' family or friends to allow them to pay arrears and facilitate reconnections.

Are adequate services and supports in place for these consumers?

Question 16: For the groups identified in Question 15 a) are adequate electricity services currently available?

Adequacy of electricity services

A number of stakeholders declined comment, did not offer a direct answer or felt they were not sufficiently informed to answer.

Stakeholders who answered the question directly felt that all Albertans—including vulnerable Albertans—receive adequate electricity services.

FortisAlberta noted that recent amendments to the Energy Marketing and Residential Heat Sub-metering Regulation provide access to services by allowing retailers to collect security deposits. This makes it possible for Albertans with poor credit or no credit history to access fixed-rate contracts.

Direct Energy noted that the current default supply framework provides basic electricity service to vulnerable consumers up to the point when they face disconnection, at which point social assistance avenues are available.

AltaGas stated that electricity services are no less accessible to consumers than other commodity services.

Adequacy of cost protections

Question 16: For the groups identified in Question 15...b) are adequate cost protections currently available? (Ministerial Order 13e-iv)

Stakeholders were divided in their views about whether vulnerable Albertans have adequate cost protections. Some stakeholders felt they lacked the knowledge and expertise to comment on the adequacy of cost protections. The following stakeholders offered comments, but did not provide a direct yes or no answer:

- The Alberta Association of Municipal District and Counties has heard concerns from farmers that cost protections are inadequate.
- The Alberta Federation of Rural Electrification

Associations noted that the Regulated Rate Option does not provide cost protection, but that retail service agreements do, to some degree.

- Capital Power Corporation commented that consumers might need price protection in two areas: price volatility and total billing amounts. The company proposed that the issue of volatility could be addressed by allowing longer-term hedging in the procurement of default supply or by referring customers to fixed-price retail service agreements. On the issue of electricity bills, however, certain groups of vulnerable Albertans will always need support or relief.
- Just Energy Alberta stated that the default rate does not provide cost protection, but that competitive retailers offered fixed-price options for terms up to five years.
- Enmax Corporation noted that retail customer care agents are often a "first line of assistance" to customers who face economic or other difficulties. Customer care agents employed by RRO providers routinely help customers make payment arrangements. In Calgary, customer care agents also refer customers to the United Way-sponsored 211 program[25], which connects people in need to community, health, government and social services.
- The Independent Power Producers Society of Alberta commented that, in an open market, competition creates downward pressure on prices rather than ensuring cost protection. "For vulnerable customers, further financial support is an issue of social policy and should be separated from market design and the design of the default product".
- AltaGas and Capital Power Corporation agreed with this recommendation, noting that cost protection is inconsistent with the principles of a fair, efficient, openly competitive marketplace. AltaGas suggested that consumers who cannot pay the fair price for electricity should receive some form of social support. Capital Power advised that the government could fund and administer a targeted support or subsidy program for consumers deemed to need price protection, but that subsidies should occur "after the fact" of energy procurement and delivery and outside of the market.

Cost protection is adequate.

The three stakeholders cited in this section answered the question directly.

- The Central Alberta, Lakeland, North Parkland Power and South Alta rural electrification associations felt that adequate cost protection was in place. However, this group of stakeholders took issue with the term "cost protection" and expressed concern that inaccurate terminology was a source of "indecision and continued discontent" on the part of consumers still on the default rate. They noted that costs were a function of unit price and volumes consumed, and that monthly costs could fluctuate whether or not prices were fixed.
- Direct Energy noted that the fixed price alternatives available in the marketplace provided adequate cost protection choices for customers. Direct Energy cautioned that cost protection in the form of subsidies or price caps is social rate-making that will impair competition and harm consumers in the long term.
- Epcor stated that the involvement of consumer groups in the Alberta Utilities Commission's regulatory process ensures that all consumers, including vulnerable Albertans, have adequate cost protection when RRO rates are set.

Cost protection is not adequate.

Four stakeholders stated that the cost protection available to vulnerable Albertans is not adequate: the Alberta Urban Municipalities Association, the Alberta Federation of Rural Elecrification Associations, the Consumers' Coalition of Alberta and the West Wetaskiwin Rural Electrification Association. (These stakeholders offered a direct answer to the question.)

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[25] In Calgary, 211 is a joint initiative of the Distress Centre Calgary, the City of Calgary and United Way of Calgary and Area, with assistance from Alberta Health Services. In Edmonton, 211 partners include the Support Network, the City of Edmonton, the Government of Alberta and United Way of the Alberta Capital Region. For more information about 211, see the program website at 211alberta.ca/partners

Adequacy of social services supports

Question 16: For the groups identified in Question 15...c) are adequate social services supports currently available? If not, how could support for these groups best be provided? (Ministerial Order 13e-iv)

Nearly half of the stakeholders who provided submissions said they lacked the knowledge and expertise to comment on the adequacy of social services support. Some stakeholders in this group offered comments:

- The Alberta Urban Municipalities Association stated that the issue of social supports must be addressed within a broad context, not just in relation to electricity services.
- FortisAlberta noted that retailers, utilities and regulators are not in a position to evaluate who requires cost protection or if the available cost protections were adequate: "Social rate-making would be ill advised. Any such consideration would be best addressed through government/social agencies".

The remaining stakeholders were divided in their views about whether adequate support services were available.

Social services support is adequate.

Three stakeholder groups believed that adequate social support was available:

- The Central Alberta, Lakeland, North Parkland Power and South Alta rural electrification associations said "there are social services support groups available". The role of default rate providers is to refer customers to the appropriate support agencies.
- Direct Energy felt there was an adequate social safety net for vulnerable Albertans, but noted the absence of hard data to support this view.
- Epcor felt that the social services available for vulnerable customers were adequate.

Social services support is not adequate.

The Alberta Federation of Rural Electrification Associations and the West Wetaskiwin Rural Electrification Association stated that social support was not adequate. AFREA observed that social support agencies only provide one-time assistance if customers cannot pay their electricity bills.

Suggestions for providing adequate support

- Enmax Corporation welcomed the recent Energy Marketing and Residential Sub-metering Regulation amendments that allow retailers to take deposits, but noted that "refinements are needed to allow the amendment to reach its maximum value." Enmax suggested that vulnerable customers also need product offerings that meet their needs without exposing competitive retailers to undue risk.
- AltaGas suggested that social support policy for vulnerable electricity customers should be aligned with comparable policy for other commodity services (such as water or natural gas) and funded through general revenues.
- The Central Alberta, Lakeland, North Parkland Power and South Alta rural electrification associations suggested the creation of consumer groups geared specifically for seniors. The REAs also noted that the office of the Utilities Consumer Advocate may need more staff if changes are made to the default rate.
- The Utilities Consumer Advocate offered a number of examples of consumer protection programs that have been implemented in other jurisdictions. These include "budget billing" (equalized payments for electricity bills), assistance programs for low-income consumers, consumer education programs that address budget counselling and energy conservation, and assistance programs that can help vulnerable Albertans access energy efficiency products such as home insulation and energy-efficient appliances.
- UtilityNet suggested that a social safety net for vulnerable Albertans, seniors and fixed income families should be designed immediately, as part of the province's social policy framework. (This was proposed as a building block for phasing out the RRO.)

Other comments

- The City of Lethbridge noted its assumption that the question of whether social agencies are adequately funded and equipped to discharge their responsibility is outside the scope of the Retail Market Review Committee.
- The Utilities Consumer Advocate noted that support for consumers is provided in two ways: through regulation and through social assistance programs.
  - Section 23 of the Regulated Rate Option Regulation provides for equalized billing, in which the customer's estimated yearly cost of electricity is paid for in 12 monthly installments. This offers a way for consumers to manage price volatility, but many Albertans are not aware that this option is available.
  - A number of agencies provide social and financial support to vulnerable customers. (Contact information for these agencies is provided on p. 51-53 of the UCA's submission, which is available at www.rmrc.ca.)

TOWARD AN ENERGY PROTECTION PLAN

The Utilities Consumer Advocate recommended that Alberta develop an energy protection policy as the first step toward a comprehensive energy protection plan that will ensure adequate electricity and natural gas protection for vulnerable consumers. Proposed steps include the establishment of terms of reference, review of best practices in other jurisdictions, stakeholder consultation and the development of recommendations. The UCA proposed that policy development costs could be funded through the province's general revenues, the Balancing Pool and a surcharge on monthly utility bills.

Who is responsible for protecting vulnerable Albertans?

> "Given the essential nature of the product, electricity authorities must make provisions to ensure all consumers have access to electricity service regardless of their financial status or level of sophistication".
>
> The UCA holds that the protection of vulnerable consumers is not just a government responsibility. It is the responsibility of industry stakeholders and consumer groups as well.
>
> —Utilities Consumer Advocate submission to the Retail Market Review Committee

In general, stakeholders agreed that the government should have social programs to help Albertans who can't afford basic necessities such as electricity, but that social policy should be addressed outside of the electricity marketplace. As one stakeholder put it, "the Alberta government has consistently and correctly kept social services policy out of energy policy."

A representative sample of stakeholder comments follows:

- TransAlta Corporation proposed that cost protections should be provided through the social services system, not through subsidized electricity rates: "A subsidy on electricity rates could create the misconception that electricity prices are uncompetitive and government controlled'.
- Enmax Corporation acknowledged the need to ensure vulnerable customers receive adequate and reliable electricity on reasonable terms and conditions. It proposed that the appropriate approach is to "design the electricity market based on sound economic principles" and provide additional support outside the market, through social agencies who work with retailers and default rate providers. This approach "best supports a fair, efficient and openly competitive market free of distortions and subsidies while ensuring that vulnerable Albertans are able to participate fully and effectively in Alberta society".
- Capital Power Corporation stated that social programs and subsidies should be provided by the government outside of the electricity market: "Neither the default rate, the wholesale market nor the retail market should be distorted to provide a social service. These distortions affect price signals to consumers and investors and can have unintended consequences on market behaviour".
- The City of Lethbridge commented that the electricity industry is unsuited and unqualified to identify vulnerable Albertans. Social agencies have better information and more expertise in this area, and are already responsible for identifying Albertans who need assistance.

Spark Power commented that, historically, Alberta has maintained a rigorous separation between social services and utilities services. However, given that electricity price increases are driven by industrial growth, it seems fair that some of the benefits of growth should be redirected to people in need. Spark suggested that the process could be overseen by the Alberta Utilities Commission and that the required funds would represent less than 1% of total electricity revenues.

Consumer Education and Awareness

What should be done to increase consumer knowledge?

Question 18: What areas and programs would enhance Alberta electricity customers' awareness, knowledge and understanding of electricity markets and electricity costs...? (Ministerial Order 13e-vi)

In general, stakeholders acknowledged that much has been done in the area of consumer education, but that more work is needed. Capital Power Corporation noted that, although a wealth of information is available, consumers may not know what to look for or where to find it. The City of Red Deer and other groups proposed that consumers simply lack motivation or interest in seeking out information about electricity. UtilityNet, Epcor and Enmax Corporation suggested that education efforts to date were not as focused or coordinated as they could have been.

"Until now, the different market retailers have gone their separate ways, introducing education and marketing programs focused on their own market segment. An unintended consequence, however, is that today the consumer is faced with an array of education and communications programs, all with their different branding and marketing slogans".

—Epcor submission to the Retail Market Review Committee

"Although there have been media campaigns...to inform consumers...that retail choice exists, the campaigns have tended to focus on...the simple message that there is choice, without educating consumers as to how to access choice or even the potential benefits of choice. As a result, it is not clear that consumers understand Alberta's retail market well enough to participate knowledgably in the market or make an informed choice with respect to competitive or RRO supply".

—Enmax submission to the Retail Market Review Committee

Most stakeholders who responded to this question felt that a large-scale consumer education campaign was needed. On the other side of the spectrum, the City of Lethbridge and the Alberta Federation of Rural Electrification Associations noted that many consumers are already well-versed in matters related to electricity and electricity markets.

The City of Lethbridge observed that the very question of what programs are needed contains a certain bias and reflects a tendency to under-estimate the capability of consumers to choose between the default rate and a retail service agreement. In making their decisions, consumers may not use the same rationale as industry insiders, but that does not mean their decisions are unwise or irrational.

"Considering that the energy commodity portion of a total monthly bill...is actually quite small..., perhaps it is more rational to focus attention on other, higher cost issues".

—City of Lethbridge submission to the Retail Market Review Committee

Direct Energy noted that current switching levels suggest that consumers may already have enough information. Direct Energy also suggested that consumers will educate themselves when they become engaged with the electricity market. This was evident when consumers exercised choice in response to price spikes that started in April 2011.

Atco noted that a particular challenge faced by consumer education campaigns was the public perception of electricity as an essential service rather than something people shopped for. The Utilities Consumer Advocate made a similar observation, commenting that energy costs are small (or perceived to be small, since they are spread over time), so consumers don't spend the time and effort to shop around like they would for a major purchase like a house or a car.

Program Development and Delivery

Most stakeholders proposed that the Utilities Consumer Advocate was the most appropriate organization to provide consumer education. They acknowledged the good work the UCA has already done to give Albertans information and tools that explain the retail market and the various aspects of an electricity bill.

Epcor suggested that the communications and education working group of the Electricity Coordinating Forum could also play a role. (The forum was established by the Department of Energy to provide Albertans with information about the electricity market and to facilitate policy development-related dialogue between government and industry.)

Epcor and AltaLink noted the success of industry-government partnerships such as the Joint Utility Safety Team (JUST), which is widely known for its popular "Where's the line?" program, which provides the public with clear information from a single, credible source.

AltaLink suggested that the province's regulated utilities should work together to educate Albertans about the regulated portion of the electricity market. Enmax held this view as well, recommending that the content and messaging of consumer education programs should be jointly developed by government and industry, with additional support from retail electricity providers.

AltaGas suggested that electricity market participants and trade associations would be well served by helping to educate Albertans, but that the message would be more credible coming from organizations with no commercial interest. AltaGas suggested that the Alberta Electric System Operator, the Market Surveillance Association, the Alberta Utilities Commission or the Department of Energy would be appropriate entities.

The City of Red Deer suggested that education and awareness programs should be the responsibility of the parties that wish to have a competitive market (the government) and the parties that wish to compete (retailers).

Program Content and Format

A number of stakeholder groups expressed a need for "electricity literacy" programs that explain the market in an unbiased, easy-to-understand way and that reduce consumer uncertainty about electricity issues.

> "A public education program is needed as consumers are asked to make choices about pricing their power. Without context, consumers risk making uninformed choices. Without a public education campaign, it is like asking homeowners to sign a mortgage and not disclosing prevailing interest rates".
>
> —Independent Power Producers Society of Alberta submission to the Retail Market Review Committee

The Utilities Consumer Advocate stated that a consumer education program was needed to promote awareness and understanding of the retail electricity market and enable Albertans to make informed choices about their electricity supply—choices based on knowledge, not fear. Fear presents a barrier to switching that interferes with the development of a competitive market, and lack of knowledge can lead consumers to choose products that do not reflect their preferences—choosing to remain on the RRO, for example, when they really prefer rate stability. The UCA also noted the interdependence of consumer education and market success: "A...[consumer education program] is not likely to result in effective customer choice without a fundamentally sound retail market design," but "a fundamentally sound retail market design may not succeed without an effective [consumer education program]".

TWO BIRDS WITH ONE STONE

The Utilities Consumer Advocate recommended designing a consumer education program that addressed both electricity and natural gas.

Stakeholders suggested a range of specific topics that could be addressed through a consumer education campaign:

- the electricity market and how it benefits Albertans
- the basics: who the market participants are, what options are available and where to go for additional information
- the wholesale market and how electricity procurement affects retail and default rate pricing
- the nature of the wholesale and retail markets and the drivers of wholesale and retail prices
- rural electricity systems and how they differ from urban systems
- the difference between default and competitive retail supply, especially with regard to price determination, consumer exposure to volatility, service levels and customer obligations
- transmission and distribution charges
- the role of transmission
- the concept of consumer choice
- how to shop for energy

Stakeholders suggested a variety of ways to provide consumer education and increase awareness[26]:

- information booklets
- workshops presented through community agencies such as the Alberta Federation of Rural Electrification Associations (a number of REAs currently offer their own programs.)
- advertisements
- direct mail
- the billing envelope
    - TransCanada proposed that default rate bills should inform consumers that power prices are variable and show them their individual price exposure based on their historical consumption data. They should also include a list of companies that provide competitive retail alternatives.
    - UtilityNet suggested that information about choice and notifications that the default rate is transitional should be included with consumers' electricity bills.
- website

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[26] Most of the suggestions listed here were proposed during stakeholders' oral presentations, in response to questions from members of the Retail Market Review Committee.

STAKEHOLDER SUGGESTIONS FOR CONSUMER EDUCATION PROGRAMS

Epcor proposed the following steps for increasing consumer awareness and understanding about electricity:

- Adopt a province-wide public education program led by the government (through the Utilities Consumer Advocate) and including industry partners. The program will make a positive change in consumers' attitudes and behaviours with regard to the electricity retail market, and establish metrics for measuring these changes.
- Designate the UCA to fund and administer the new program. This is in keeping with the UCA's mandate to provide the public with electricity market information.
- Appoint an independent marketing firm to develop and implement the program, drawing on the accumulated knowledge of the industry-government Electricity Coordinating Forum. The program should target residential customers and small consumers through media advertising, educational materials and a redesign of the UCA website. Messaging should be neutral and even-handed, not advocating for either the default rate or for retail service agreements.

Epcor noted that a government-led, UCA-delivered public education program would have a number of benefits over retailer- or industry-led programs. It demonstrates public stewardship and leadership, which will inspire public confidence. It offers a fair, unbiased approach, since the government has no vested interest in consumers' electricity choices.

It avoids passing costs on to consumers; the costs of program funded by retailers would have to be passed on.

A centrally planned and delivered education program also offers

- one-stop-shopping for consumers looking for answers
- clear, consistent, easily understandable information that can be used on retailers' websites as well as on the UCA's
- opportunities to identify and address knowledge gaps and to share best practices
- opportunities to build on the good work of the Electricity Coordinating Forum and other agencies

The Utilities Consumer Advocate proposed that a consumer education program should include the following components:

- a consumer survey to establish a baseline of information
- proactive consumer education through a radio, print and television campaign and presentations to community groups (The campaign should focus on simple, direct messaging to generate awareness.)
- passive consumer education through websites, call centres and printed brochures (This portion of the program generates understanding.)
- ongoing consumer education

The UCA's review of best practices from other jurisdictions found that successful consumer education programs were characterized by professional design, centralized control, delivery through appropriate agencies, stakeholder involvement and industry-wide messaging.

What is a reasonable budget, and who should pay?

Question 18: ...What would be a reasonable budget for...[customer education] programs? Why? Who should pay for such programs (for example, consumers, retailers, government)? (Ministerial Order 13e-vi)

The Consumers Coalition of Alberta noted that it was "not opposed to stakeholders paying but consumers didn't ask for deregulation, so why should they pay?"

A few stakeholder groups suggested what a reasonable consumer education budget might be. Estimates ranged from a $300,000 to $16 million per year.

- Just Energy proposed spending $300,000 to $500,000 paid through a rate base.
- Epcor estimated an annual budget of $1 to $1.5 million would be required. The Alberta Federation of Rural Electrification Associations estimated $1 million.
- Direct Energy estimated approximately $400,000 per year was required for a consumer education campaign for its customers on the default rate.
- AltaLink estimated $2 million per year. Enmax estimated $2 to $3 million.
- The Independent Power Producers Society of Alberta cited a study by Navigant Consulting, which found other jurisdictions spend an average of $1 per citizen per year public education.
- UCA says $1 to $2 per site per year. Over five years, $6 to $16 per year; front-loaded (media campaign will be most expensive); other jurisdictions have spent 40 cents to $3 per resident per year.; $2 per for electricity and gas suggested for Alberta, totalling $3 million a year; just electricity, $1 per; $1.6 per year. UCA gets 80% of funding from Balancing Pool and 20% from natural gas distributors; funds ultimately recovered from customers. $16 million prorated over natural gas and electricity customers - 14 cents per month in Year 1 to 4 cents per month in Year 5.

Some stakeholders noted that program funding was needed to maintain existing programs as well as to develop new ones.

Stakeholders offered a range of opinions on who should pay for consumer education and awareness programs.

Some stakeholders suggested that the Alberta government or government agencies should cover program costs. It was not always clear what mechanism was being proposed. For example, AltaLink suggested that the Alberta Utilities Commission should provide funding for utility companies to offer partnership-based education (like the JUST program) on the regulated portion of electricity rates Enmax suggested that if RRO providers or distribution systems had to pay, the costs must be recoverable through the Alberta Utilities Commission—presumably through rates approved through energy price-setting plans and passed on to consumers.

AltaGas stated that the education of electricity consumers is of long-term benefit to the electricity industry, so that current communications and funding through government agencies such as the Alberta Electric System Operator and the Alberta Utilities Commission should be sustained.

Some stakeholders suggested that costs could be shared among various groups.

- Spark Power proposed a cost-sharing arrangement in which the government paid 50% of program costs and consumers and retailers each paid 25%. The required funds could be collected through small riders placed on electricity bills.
- UtilityNet proposed a cost-sharing arrangement in which the government matched funds contributed by consumers and generators. They suggested that the consumers' portion should be based on "an assessment of the spot trading charge on all energy consumed"; the generators' portion, collected by the Alberta Electric System Operator, should be a percentage of energy sold into the market.
- FortisAlberta suggested that it was reasonable for the multi-billion-dollar electricity industry to devote a small fraction of its profits to ensuring that the industry and the market are successful, for the benefit of customers. "Ideally, the consumers who benefit from such programs should ultimately pay the costs".

Some stakeholders suggested that consumers should pay:

- The Industrial Power Consumers Association of Alberta stated that "there should be no increased funding from Alberta's ratepayers to subsidize educational programs. If government policy is to promote competitive markets and retail competition, this should be done using taxpayer dollars only."
- TransAlta suggested that consumers should pay for electricity market education programs.

The City of Lethbridge proposed that retailers should bear the cost of education programs, since they have the "most to gain by enhancing Alberta electricity customers' awareness, knowledge and understanding of electricity markets and electricity costs".The expense should not be passed on to all consumers. The city suggested that education programs could perhaps be funded through licensing fees for competitive retailers.

Who shouldn't pay?

The Industrial Power Consumers Association of Alberta noted that its members pay for their own education about electricity markets, and should not be responsible for subsidizing the education of other customer classes. IPCAA members already support the Utilities Consumer Advocate's educational material through Balancing Pool funding.

Do consumers understand their electricity bills as they are designed now?

Question 20: Is electricity-related billing information presented in a way that allows customers to understand and evaluate the charges on their bill? (Ministerial Order 13e-vi)

Stakeholders shared a range of views on whether consumers understand their electricity bills.

The Alberta Federation of Rural Electrification Associations and the West Wetaskiwin Rural Electrification Association noted that it depends on the consumer. Some consumers understand the details, some simply pay the amount due without much thought and some have trouble understanding their bill charges. AFREA recommended that a simplified, plain language bill should be used by all electricity retailers in the province.

The Utilities Consumer Advocate described the industry consultation it led, in 2010-2011, to develop plain language billing templates. Retailers use these templates voluntarily, and at present, only Just Energy has adopted them. Some retailers have said that using the UCA's plain language bill is not feasible unless they can recover the cost of converting their billing systems to accommodate the template. Cost estimates for such a conversion range from $25,000 to more than $3 million. The UCA recommends that regulated retailers should be required to present proposals for the required modifications of their billing systems for approval by the Alberta Utilities Commission. It also proposes that an independent committee should be created to review how established retail electricity providers can recover approved costs for modifying their billing systems from the Balancing Pool. Finally, the UCA recommends that new retailers should be required to adopt plain language billing principles as a condition of their retail license.

A number of stakeholders felt billing information was presented appropriately and that consumers understood their bills. FortisAlberta recognized the need for an appropriate balance between too much and too little information, noting that some consumers want to see every detail while others are frustrated by a detailed breakdown of charges. Epcor noted:

> the current electricity-related billing information presented on customers' bills allows customers to understand and evaluate the charges. The current RRO Regulation requires electricity charges be separated into the electric energy charge, the administrative charge, delivery charges, and local access fees. This separation of charges provides customers with billing transparency. This transparency allows customers to evaluate price changes to assess which charges have changed and whether the change is related to their consumption level or a fixed charge. The current breakdown provides customers with the information they need to be able make decisions regarding their consumption levels to manage their monthly charges.

Stakeholders who believed customer bills were easy to understand offered the following general observations:

- The Utilities Consumer Advocate website includes detailed explanations of the various line items on an electricity bill, and UCA staff are available to answer consumers' billing-related questions. Individual utility companies and the Alberta Electric System Operator are also willing to help customers with billing questions.

- Retailers have informative websites and call centres with trained agents who help consumers understand their bills.
    - Direct Energy reports that 88% of its customers find their bill easy to understand.
    - Epcor has done significant work to educate customers about the information presented on their bills. Epcor customers can access an online electronic bill that helps them read and understand their bills and defines all the billing charges.
- The UCA has done work in the area of plain language billing.

Stakeholders who felt that that consumers found their electricity bills complicated and confusing offered the following observations and suggestions:

- Consumers do not understand what certain line items mean, and are confused about which parts of the bill refer to regulated versus non-regulated electricity components.
- Customers do not understand the non-energy charges on their bill. Rate riders are often buried in the bill, and costs are shifted between line items.
- Consumers may be confused about why their charges vary from month to month.
- UtilityNet suggested that the Alberta Utilities Commission and the Utilities Consumer Advocate should audit the monthly bills received by RRO consumers, and produce a plain language bill.
- The City of Lethbridge noted that the complexity of the bill is the result of the government's electricity policy, which has made it necessary to break up the bill into multiple parts so that consumers can find a competitive substitute for one component, even though most components remain regulated.
- Enmax observed that "the unbundling of the bill required by Alberta's market rules appears to have contributed to bill complexity and to customer confusion". Information about the cost of energy is lost amid the detail regarding other items on the bill, and there is no clear distinction between costs set by the market, costs set by regulation and costs that are simply included because the electricity bill provides a convenient method for collection.
- Atco suggested that the bill should be simplified by grouping costs into three line items: energy, delivery, and local access fees and taxes.
- AltaGas noted that while it was important for customers to see details about the cost of energy compared to non-energy costs, perhaps these details could be posted on a website instead of on the electricity bill.
- The Independent Power Producers Society of Alberta noted that it was not qualified to provide a quantitative comment on the complexity, but supported continued transparency on the bill as a way of fostering public education about the drivers of energy and delivery costs.

The Retail Market and Regulated Non-Energy Charges

Are there concerns about regulated non-energy charges?

Question 19: Identify any challenges and concerns you have regarding non-energy charges, including the following: a) transmission and distribution service; b) associated billing or administration costs; c) rate riders established to collect deferred balances (Ministerial Order 13f).

General Comments

The Canadian Federation of Independent Business did not directly respond to this question, but noted that non-energy charges should be set and approved by an experienced, knowledgeable independent regulator.

Enmax, Epcor, AltaGas, AltaLink, Atco, the Industrial Power Consumers Association of Alberta and FortisAlberta noted their support for the current regulatory scheme under which transmission and distribution service charges, billing and administration costs, and rate riders are established. They stated that the current system is fair, just, reasonable, efficient, effective and in the public interest. Epcor recommended that all rate-related issues remain solely within Alberta Utilities Commission jurisdiction.

The City of Lethbridge noted that it had no concerns, with the proviso that deferral accounts should be allowed and the payment in lieu of tax required of municipalities should be eliminated.

The Utilities Consumer Advocate expressed concern about the rate at which non-energy charges have increased since 2004.

Transmission and Distribution

Question 19: Identify any challenges and concerns you have regarding non-energy charges, including... a) transmission and distribution service. (Ministerial Order 13f).

The cost of infrastructure

A number of stakeholders expressed concern about the cost and impact of new transmission infrastructure.

- The Alberta Federation of Rural Electrification Associations expressed concern about the cost-recovery, flow-through methodology used for transmission costs and proposed transmission lines. The federation was also concerned about the rising cost of transmission-related infrastructure, maintenance and operations.
- The Utilities Consumer Advocate noted that 70% of transmission costs are associated with "new growth capital" caused by Alberta's growing economy and overall system load growth. Transmission costs are increasing faster than other non-energy charges, and unless there is a change in the method by which transmission facilities are regulated, this trend is expected to continue over the next 10 years.
- The City of Calgary expressed concern about the "massive transmission build currently occurring in Alberta" and suggested that distributed generation should be included as an alternative.

The Independent Power Producers Society of Alberta expressed its support for the province's long-term transmission plan, even though the "new wires" needed to meet future supply and demand will raise transmission rates for consumers. IPPSA noted that the rising costs of transmission will be offset, in part, by the success of the electricity market in driving prices down. Wholesale prices in 2012 have averaged 5.5 cents per kilowatt hour, compared to 7.6 cents in 2011.

Consumer concerns

A number of stakeholders stated that transmission and distribution charges can be a source of concern for consumers:

- TransAlta noted that residential consumers often confuse changes in transmission and distribution charges with changes in electricity price, which can lead to political intervention.

> "[The cost] of transmission and distribution services is the single largest complaint that we receive as a retailer."
>
> —Spark Power submission to the Retail Market Review Committee

> "In spite of significant public attention...the true costs of building a reliable transmission infrastructure are misunderstood...Consumers [are not aware that]...transmission and distribution (T&D) services are 47% of a total utility bill. The year-over-year increase in T&D charges receives little media scrutiny while the increase in the price of the commodity is front page news."
>
> —Direct Energy Marketing Limited submission to the Retail Market Review Committee

Spark Power, TransAlta, and the Central Alberta, Lakeland, North Parkland Power and South Alta rural electrification associations expressed the need for a public education program to explain why transmission and distribution charges change, and why rates will increase as Alberta builds much-needed new capacity.

General concerns

The Alberta Urban Municipalities Association recommended that regulators should continue to monitor reports from transmission and distribution wire owners.

Just Energy Alberta expressed concern that retail energy providers must bill their customers for the transmission and distribution services, but receive no fee for bill creation or administration, or for dealing with bad debt.

The City of Red Deer noted that managing and accounting for unpredictable transmission-related charges was a challenge. The West Wetaskiwin Rural Electrification Association commented that fixed costs had to be controlled.

Atco noted that, although transmission costs are averaged across the province, the transmission rate design does not always result in the mandated postage stamp rates at the consumer level. Atco also emphasized that rural distribution systems face different challenges than urban systems. Low population density in rural areas means distribution systems are more costly to build, operate and maintain, with the result that rural customers pay more for service.

Billing and Administration Costs

Question 19: Identify any challenges and concerns you have regarding non-energy charges, including... b) associated billing or administration costs. (Ministerial Order 13f)

Stakeholders offered a range of comments:

- Direct Energy noted that administration charges made up just 5% of an average residential bill.
- The Alberta Federation of Rural Electrification Associations expressed concern about load settlement costs and noted that REA administrative costs continued to increase.
- The Alberta Urban Municipalities Association noted that billing and administration costs should be transparent.
- Atco observed that most customers do not understand these costs or why they change from month to month.

Rate Riders

Question 19: Identify any challenges and concerns you have regarding non-energy charges, including... c) rate riders established to collect deferred balances. (Ministerial Order 13f)

A number of stakeholders expressed concern [offered a range of opinions] about rate riders:

- The Central Alberta, Lakeland, North Parkland Power and South Alta REAs felt that collecting deferred balances through rate riders was unfair and inefficient. Because riders are imposed after the fact, the consumers who pay are not necessarily the consumers who created the situation. For example, in the case of deferred accounts to cover the cost of payment defaults, consumers who don't pay their bills are "removed from the pool of consumers that must pay for that default in the next month of service."
- Direct Energy noted that rate riders could be a source of irritation for consumers. At the same time, fair cost recovery for electricity distributors requires the use of rate riders to collect and refund deferred balances.
- The Alberta Federation of Rural Electrification Associations was concerned about how rate riders affect rates. Just Energy Alberta expressed a similar concern, noting that they "blur the current market rates." Atco observed that customers generally do not understand what riders do.
- TransAlta advised that rate riders should be avoided. They cause problems because "they exist long after the problem they were created to solve has disappeared".
- The Utilities Consumer Advocate expressed concern about the prevalence of deferral accounts, which guarantee recovery of the actual (rather than forecast) costs of providing service. At the same time, new rules about assigning capital expenditures mean that electric utilities face less risk than before.
    - Deferral accounts remove the incentive for utility companies to manage their cost, which means that consumers may be paying higher prices.
    - Deferral accounts distort the price signal for consumers.
    - Capital investment in transmission and increasing transmission costs have increased the volatility of deferral accounts. Because costs must be recovered each quarter (rather than over a longer term), rate riders must increase accordingly, which increases consumer rates.

The Freeze on Ancillary Costs

The Retail Market Review Committee's questionnaire did not pose this question directly.

On February 23, 2012, the Government of Alberta announced a four-point plan to address the volatility and the costs associated with electricity. The plan called for the Alberta Utilities Commission to freeze the following electricity-related costs: distribution, transmission, rate riders and administrative charges. Stakeholders who made presentations to the Retail Market Review Committee provided information on how this freeze would affect their operations and the industry as a whole.

- Enmax Corporation expressed concern that an extended rate freeze had the potential "to impose financial hardship" on its operations and expose consumers to significant rate shock once the freeze was lifted, the backlog of regulatory decisions was released and rates increased again.
- Epcor strongly recommended that all rate-related issues remain solely within Alberta Utilities Commission jurisdiction. When more than one entity can influence the dollar value and timing of utility charges, as happened with the February freeze, this can have unintended consequences. As Epcor noted in its oral presentation to the Retail Market Review Committee, freezes are not helpful. The AUC is a highly respected organization that makes regulatory decisions based on evidence and the rule of law. It is the only forum in which rate-related issues can be decided.

Stakeholders made the following observations in their oral presentations, in response to questions from the Retail Market Review Committee:

- Atco noted that if the rate freeze is not lifted quickly, its impact could be dramatic, with significant price shocks as accounts are trued up. "The longer the freeze, the bigger the problem."
- The Consumers' Coalition of Alberta stated that there will be carrying costs and "pent-up price shock" when

the freeze is lifted. One way of minimizing the impact is to defer the price increase, but this raises the issue of intergenerational equity (future customers paying for costs they did not incur) and consumers did not ask for this freeze.

- The Alberta Urban Municipalities Association observed that polling consumers about the appropriateness of the freeze would likely result in a wide range of opinions. Nonetheless, "any time you see a freeze, you know this will have to be paid back at a later date."

Is the retail market competitive?

Question 22: What is the state of competitiveness within the Alberta retail electricity market? Please include comments about the following: a) competitiveness among current retailers; b) barriers to new entrants; c) growth of existing market participants. (Implicit in the Ministerial Order)

Most stakeholders who responded to this question did not have a simple yes or no answer on the question of whether the retail market is competitive.

Among stakeholders who answered the question directly, the following believed the retail market is competitive:

- Epcor stated that "the competition among retailers in Alberta is active and healthy, offering customers a number of different products and value propositions". Epcor also commented that there are two approaches to the development of competition in deregulated markets. Markets with many retailers with various levels of stability see faster switching, but more complexity and more negative consequences for consumers who make poor choices. Markets like Alberta"s—with fewer but more stable competitive retailers—see slower switching rates, but higher consumer confidence because switching decisions are less complex and the negative consequences of a bad choice are fewer.
- The West Wetaskiwin Rural Electrification Association believes that the market is "reasonably competitive, with suppliers offering a variety of contract terms and products".
- The Independent Power Producers Society of Alberta believes that "the retail market is competitive, especially considering the 'no choice' option provided by the RRO". The residential retail market offers consumers a variety of products, including term products, flow-through products, dual fuel and green energy.
- The Industrial Power Consumers Association of Alberta stated that the retail market has had 12 years to evolve, and that further government action to promote competitiveness is not required. "Competition cannot be forced, or it is not true competition".
- Enmax Corporation believes that the retail market is competitive. Enmax cited two studies to support this position.
    - The 2011 ABACCUS study (*Annual Baseline Assessment of Choice in Canada and the United States*) by Distributed Energy Financial Group ranks Alberta fourth of 18 jurisdictions with respect to the residential market, and seventh in the commercial and industrial market.
    - The Alberta Department of Energy's 2010 *Retail Market Review* cites a Herfindahl-Hirschman Index value which suggests that there are no concerns about market concentration or abuse of market power.

Stakeholders offered the following general comments about retail market competitiveness:

- The Alberta Federation of Rural Electrification Associations noted that competition does exist, but that Alberta's market is too small to support enough retailers to be truly competitive.
- Direct Energy noted that the recent *ABACCUS: An Assessment of Restructured Electricity Markets* report (Distributed Energy Financial Group 2011) ranks Alberta's residential market in fourth place in North America.
- Just Energy Alberta suggested that the "potential and ability for growth exists". More consumer education, more product options and a default rate that reflected current market options would allow consumers to make informed decisions.
- The City of Calgary noted that Alberta is a "small electricity island" with a small populations: "Many

competitive retailers in a small market results in a high...administrative cost per customer. There is also an issue of electricity supplies... The bulk of Alberta's electricity is produced in about two dozen generation plants. A few generator owners have a sizeable share of the market. The marketers and customers have limited options of where to buy their electricity."

- UtilityNet noted that dynamic, deregulated energy markets encourage retailers to compete on service offerings as well as price, and to offer innovations such as green energy, loyalty programs and new consumer services. In Alberta market design rules have favoured incumbent retailers, minimizing innovation and slowing innovation. Given the number of retailers who have left Alberta and the dominance of just four retail players (Epcor, Enmax, Direct Energy and Just Energy), "the market isn't really that healthy."
- The Utilities Consumer Advocate commissioned a study[27] to assess the competitiveness of the market, which is related to market concentration. The study found that in the current market, which includes consumers on the default rate, the largest retailers do not hold market power. In an extreme scenario—if the default rate was phased out and no new retailers entered—the market would not be particularly competitive. The study concluded that the retail market at present is competitive if not highly competitive.
- TransAlta cautioned that the retail market must be "workably competitive" to ensure retail consumers are protected and that market power is not abused by dominant retail providers. While no seller in the wholesale market is allowed to control over 30% of supply, there are currently no such restrictions on retail market share. Ongoing monitoring and market power mitigation measures must therefore be in place.
- Atco stated that retail competition in Alberta was relatively limited compared to other jurisdictions, and that there was little variation in retail product offerings.

Do new retailers face barriers to entry?

Question 22: What is the state of competitiveness within the Alberta retail electricity market? Please include comments about... b) barriers to new entrants. (Implicit in the Ministerial Order)

Stakeholders identified a number of entry barriers for new retailers. Not all groups cited every item on the following list, and not all groups agreed that the listed items did in fact pose entry barriers. When stakeholders offered an opposing viewpoint, this is noted.

- small consumer marketplace
- cost and time required to meet regulatory requirements
- size of security deposits (prudential requirements)[28] required by the Alberta Electric System Operator, distribution system owners and electricity exchanges where forward contracts are purchased
    - Direct Energy noted that prudential requirements were established when the retail market first opened, and are larger than they currently need to be. In addition, as noted by UtilityNet, they do not necessarily protect consumers. Consumers would be better served by a certification process that required new retailers to demonstrate their competence in following transmission billing code and system settlement code guidelines, and by an audit process to ensure that customers were being billed correctly.
    - UtilityNet noted that the Alberta Electric System Operator's security requirements mean that independent retailers must post two dollars of security for every dollar of energy they sell.

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[27] Donald G. McFetridge, "Competition in the Alberta Retail Electric Power Market" (Utilities Consumer Advocate, May 2012). The public version of study is posted at www.rmrc.ca/xData/rmrc/UCA%20Appendix%206.pdf.

[28] Prudential requirements for retailers include security deposits with Service Alberta (a million-dollar bond), the Alberta Electric System Operator and the Natural Gas Exchange (if they wish to procure energy on the exchange). Retailers must also post security with the distribution companies that deliver electricity to their customers (DOE, 2012a).

  - Spark Power noted that the cost of power and delivery may be 50 to 100 times greater than a typical retailers' 1% to 2% profit margin. This creates a significant barrier to entry since the requirement for financial security may be 50 to 100 times greater than retail operating costs. If preliminary load settlement data were used to produce immediate retailer invoices for immediate payment, security deposits would only have to cover a period of days. Under the current system, preliminary data are available five business days after electricity is delivered, but since retailers are not billed for two months, they have the burden of posting two months' worth of financial security.

OTHER VIEWPOINTS

Enmax Corporation submitted that prudential requirements specified by the Alberta Electric System Operator and by distribution system owners do not constitute an unfair barrier to entry. Enmax noted that setting prudential obligations requires a trade-off between "protecting consumers and encouraging (or at least not hindering) market entry".

- lack of standardization with regard to security deposits and prudential requirements
  - The Alberta Electric System Operator uses different security criteria for different groups of retailers.
  - Different distribution wire owners have different security deposit requirements. UtilityNet proposed standardizing the process, reducing the amount of security required, treating the security requirement as a licensing requirement and shifting responsibility from distribution wire owners to Service Alberta. They also proposed that the security (or licensing) requirement be payable quarterly in the form of cash on deposit or a line of credit.
- lack of consumer awareness and education
- billing structures and limits on recourse for consumer non-payment
  - The Utilities Consumer Advocate and Enmax Corporation noted that Alberta's electricity billing structure, which requires retailers to assume responsibility for bad debt, may pose a barrier to entry. Enmax explained that, if customers default, retailers are responsible for the full amount of the outstanding charge, including distribution and transmission flow-throughs. Allowing retailers to bill these flow-throughs back to the distribution system owner and the Alberta Electric System Operator would reduce retailers' costs of doing business. Enmax was not advocating for a system change, noting that retailers can choose whom to serve, while distribution system owners cannot. However, the company suggested that the billing structure may nonetheless need to be revisited if it is preventing retailers from entering the Alberta market.
  - AltaGas suggested that retailers should have the right to collect deposits and cut off electricity services for non-payment.
  - Just Energy noted that competitive retailers must bill consumers for their electricity, but do not receive a fee for billing, administration or bad debt expenses.
- billing systems
  - Epcor stated that the cost and complexity of establishing the infrastructure and capability to bill electricity services was a primary barrier to entry.
  - Spark Power noted that new retailers must purchase or develop costly, complex billing systems in order to accommodate "the primitive and unique business transactions used in Alberta". This requires a start-up investment of hundreds of thousands dollars before a single customer can be signed on. Spark Power recommends that all competitive retailers should be allowed to access default providers' billing systems, which were built at customers' expense, and that distribution system owners should provide billing services as part of their legislated mandate.

OTHER VIEWPOINTS

Enmax does not believe that the cost of establishing a billing system is a barrier to entry for small retailers: several companies offer billing services to retailers. Enmax also suggested that retailers who wished to do so could make commercial arrangements to purchase billing services from default rate providers.

- consumer reluctance to sign retail contracts
- security and prudential requirements
- lack of a level playing field

> "If we want the market to work, it must be fair for all."
>
> —Spark Power submission to the Retail Market Review Committee

- Direct Energy and UtilityNet noted that default suppliers have a competitive advantage in that they serve a ready-made customer base. Competitive retailers, on the other hand, incur costs in acquiring new customers. The Department of Energy noted that since Alberta has never undertaken a comprehensive consumer education campaign, it is left to retailers to educate prospective customers. At a cost of $1 to $3 for each new account, customer acquisition costs can be a barrier to entry.
- UtilityNet noted that guaranteed service territories give incumbent providers an unparalleled marketing advantage; in addition, distributors can demand security deposits that serve as economic barriers to entry for competitive retailers who wish to operate in their service areas. The Utilities Consumer Advocate, Just Energy Alberta and the Alberta Urban Municipalities Association also noted that the exclusion of competitive retailers from certain geographic areas can be a barrier to entry.
- Atco noted that investor-owned retailers must compete with municipally owned - "government-owned" retailers.
- Affiliated retailers have a competitive advantage. In spite of Code of Conduct Regulations, a number of stakeholders were concerned about the potential for default rate providers to share marketing information, billing systems and customer care services with their affiliated competitive retailers. The potential for cross-subsidization is also a concern. For example default rate suppliers that have affiliated retailers can promote their competitive offerings by stuffing marketing materials into the billing envelopes that go to their regulated rate customers. Non-affiliated retailers are not allowed access to the billing envelope.
- Co-branding is an area of concern. Default rate providers whose retail affiliates have similar names benefit from name recognition without incurring marketing costs. The similarity of names is confusing for customers and creates an unfair advantage. UtilityNet proposed addressing this situation by presenting the default rate as a non-branded government products and issuing bills in a standardized format that did not use the corporate logos of distribution wire owners or their affiliates.
- The market structure and business rules favour incumbent retailers at the expense of new entrants. UtilityNet noted that municipal utilities such as Enmax are held to different standards of financial stewardship than publicly traded enterprises, and have the benefit of debt financing their growth through taxpayer-backed guarantees.

OTHER VIEWPOINTS

The Utilities Consumer Advocate noted that the playing field is not quite level, but it is "not so much tilted as it is bumpy":

> ...barriers to entry, in the sense of cost advantages of incumbent competitive retailers over potential entrants, are relatively low. Structural barriers to entry in the form of fixed sunk entry costs are also relatively low. Suggestions of strategic entry deterrence by incumbent competitive retailers are speculative at this point. There are regulatory restrictions that have impeded the growth of the...retail market as a whole, but they do not appear to confer significant advantage on incumbent competitive retailers....Some incumbents have legacy advantages but this may be true of some potential entrants as well.

- high start-up costs, including investments in billing systems and the cost of acquiring customers
- low profit margins
- lack of harmonization between the regulation of Alberta's natural gas and electricity markets
- lack of ability to offer prepaid products
- lack of rules to prevent consumers who don't pay their electricity bills from switching suppliers
- market volatility
- competition from the default rate

Enmax Corporation observed that whether or not a particular item acts as a barrier to entry depends on "the specifics of how the item is designed and implemented." For example, while there is general agreement that prudential requirements are needed, there is less agreement about appropriate amounts.

AltaGas noted that improving forward market liquidity beyond the prompt month and mandating the flow-through of pool price for all suppliers would remove barriers to entry into the retail market for consumers of more than 250,000 kilowatt hours of electricity per year.

Is there competitiveness among current retailers?

Question 22: What is the state of competitiveness within the Alberta retail electricity market? Please include comments about the... a) competitiveness among current retailers. (Implicit in the Ministerial Order)

The Alberta Urban Municipalities Association believes there is adequate competition among retailers, but noted that customers are still reluctant to switch.

The Alberta Federation of Rural Electrification Associations noted that retailers offer similar pricing and that competitiveness would increase if there were more retailers in the market.

Epcor stated that Alberta retailers compete on a number of factors, including differentiated products, price, sales channels, contract terms, customer service and environmentally friendly options.

TransAlta observed that the number of retailers and retail product offerings is growing.

AltaGas noted that competition "is alive and well" with regard to the acquisition of large retail customers who use more than 250,000 kilowatt hours of electricity each year.

Is market participation growing?

Question 22: What is the state of competitiveness within the Alberta retail electricity market? Please include comments about the... c) growth of existing market participants. (Implicit in the Ministerial Order)

Stakeholders interpreted this question in different ways, and most groups that responded did not answer directly.

Epcor responded to the question in terms of an increase in customers, and stated that growth was occurring at a reasonable pace. Atco noted that customer participation in the retail market was relatively low, therefore the growth of retailers was also limited.

Capital Power Corporation and Direct Energy cited statistics on the number of electricity retailers and retail products available in Alberta, and the Independent Power Producers Association of Alberta cited switching rates. This suggests these stakeholders believe market participation is growing.

TransAlta addressed the question in terms of the growth of individual retailers: "market entrants that are exhibiting innovations in their retail tariff structures are growing".

Stakeholders offered the following general comments and observations:

- The Alberta Urban Municipalities Association noted that there were enough participants in the market.
- The Alberta Federation of Rural Electrification Associations noted that the market will grow if it is competitive, and that factors such as shareholders' return on investment will determine success.
- The West Wetaskiwin Rural Electrification Association observed that most retailers are not interested in serving small rural consumers, but they will offer

services to poultry producers, hog farms and other large operations.

- Direct Energy noted that the recent standardization of the tariff bill code and system settlement code rules and legislative changes that allow retailers to charge security deposits have facilitated the entry of niche market retailers.
- UtilityNet listed six companies that have exited Alberta's retail electricity market or been absorbed through corporate consolidation: Valeo Power, Constellation Energy, EPCOR Merchant & Capital, Nexen, BP and Coral.
- Just Energy Alberta commented that new participants had recently entered the market.
- Capital Power Corporation suggested that a lack of consumer awareness about where to find information on competitive offers was a barrier to market growth. Citing the Department of Energy's 2010 Retail Market Review, Capital Power noted that 73% of Albertans know there are competitive retailers, but only 48% know where to find information.

Enmax Corporation interpreted the question in terms of the potential for a retailers' growth to lead to market power concerns, and did not consider this to be an issue. If a retailer grows too large and indulges in price gouging, other retailers will respond by offering more attractive options. If a retailer engages in anticompetitive behaviour, agencies such as the Market Surveillance Administrator will respond.

Other Issues

What are the best ways to ensure Albertans receive appropriate standards of service?

Question 21: What are the best ways to ensure that Alberta electricity customers receive appropriate standards of service? Please provide your recommendations. (Ministerial Order 14)

Not all stakeholders answered this question, and those who did approached it in different ways. Several stakeholders indicated that they were not qualified to address this question or that the intent was not clear.

Capital Power Corporation, Enmax Corporation, Epcor, Atco, Direct Energy, FortisAlberta, the Industrial Power Consumers Association of Alberta and the Consumers' Coalition of Alberta suggested that the Alberta Utilities Commission was the appropriate body for setting and monitoring standards, and that the current system was functioning well. IPCAA commented that if the government determined that changes were needed, then the association would support the use of negotiated agreements with ratepayers, and the inclusion of incentives to reduce costs and improve service.

Epcor noted that although AUC service standards do not apply to competitive retailers, they nonetheless establish a competitive benchmark—a base level of service that retailers must meet if they are to attract and retain customers.

Enmax stated that AUC standards were not the only drivers of quality services, noting that service providers take pride in providing excellent service and are "not inclined to allow their corporate reputations to suffer": competitive retailers that provide poor service lose their customers.

Direct Energy, AltaGas and UtilityNet proposed that the best way to ensure appropriate service standards was to foster a healthy, competitive retail market in which consumers can select retailers who provide the quality and level of service they desire.

The City of Lethbridge noted that service standards for its customers were set and approved by City Council, which is accountable to its electorate.

A sampling of stakeholder views

"Minimum standards of service should be approved by the AUC or other regulatory oversight bodies at rate hearings or in other public processes. The UCA participates in rate hearings to ensure customer's interests are represented."

—Capital Power Corporation submission to the Retail Market Review Committee

"Customer care and 'appropriate standards of service' cannot be regulated. If the competitive market is working… [appropriate standards] will be driven by the consumer."

—UtilityNet submission to the committee

"The best way to ensure customers are receiving appropriate levels of service is to foster a healthy and competitive retail market [in which customers can]…switch retailers based on the quality and level of service they desire."

—Direct Energy Marketing Limited submission to the committee

Stakeholders offered a range of general comments on the issue of service standards:

- The Central Alberta, Lakeland, North Parkland and South Alta rural electrification associations noted that Albertans receive excellent service in terms of consistency and reliability, and that it was important to maintain a hands-off approach to electricity supply while continuing to regulate transmission and distribution.

- Just Energy Alberta proposed that electricity distributors should be required to develop and publish customer service standards that would address issues such as billing and payment, correction of billing errors, equal payment plans, disconnection for non-payment, security deposits, arrears management and customer account management.
- The Utilities Consumer Advocate provided comments on three service related areas:
    - With regard to **electricity supply**, consumers can, in theory, select the service standard they prefer. Consumers who want guaranteed service can contract for it. Consumers for whom price is important can select the price at which they no longer wish to receive service. In reality, however, providing appropriate standards of service requires that consumers have real-time data and can control their electricity consumption. The infrastructure that could make this possible is costly. The UCA advises that rigorous regulatory process is needed to ensure that having this infrastructure is in the public interest and that it can be provided at a reasonable cost to consumers.
    - In the area of **electricity delivery**, service levels are the same for all electricity customers, and there is a trade-off between the level of rates and the level of reliability. The UCA supports a performance-based results approach that uses financial incentives and penalties to encourage utilities to operate efficiently and to provide consumers with acceptable delivery services.
    - In the area of **customer service**, service standards apply in areas such as meter reading, billing, customer response, marketing and contracting. Many of these standards are set out in the Alberta Utilities Commission's Rule 002 and Rule 003, and in legislation and regulations that protect consumers from unfair practices.

The Utilities Consumer Advocate proposed that, every two years, it should hold a "state of the market" review to measure the performance of the competitive retail market as a way to set benchmarks for consumer costs savings and high-quality services.

*For reference, see **www.rmrc.ca** for an interactive spreadsheet containing a proposed timeline for implementation of the Committee's recommendations.*

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